

## INSIDE DOPE

Learn to live and laugh—  
Thus delay your epitaph

By **GEORGE  
F. TAUBENECK**

Stories of the Week  
Definitions of the Week  
Verses of the Week  
Success Stories  
Out of Our Mailbag  
Tag-Enders

### Stories of the Week

Delegate to a convention of the Missouri Medical Society, an old family doctor, reared up and bespake:

"I may be out of touch with modern medical miracles. However, you can have your hormones and histamines. My patients will still want TLC."

An upswelling of murmurs followed.

"What is TLC?" the convention of medicos wanted to know.

"I'll tell you," silenced the Family Doctor. "You Specialists should understand that the Best Cure is:

"Tender Loving Care."

Arrested for keeping her auto "bright lights" on, Mrs. Youngbride protested:

"I don't see well, even with my glasses; so I turn up my car lights."

"Madame," patiently explained the State Highway Cop, "if every driver did what you do, nobody would dim auto headlights. Wouldn't that be awful?"

"Not as far as I'm concerned," she trilled. "At night I always shut my eyes when I see another car approaching."

H. R. Bainter of Roseville, Ohio, informs us that a Pittsburgh book store drew attention with this sign:

**DIRTY BOOKS HALF OFF.**

### Definitions of the Week

**Philosophy:** The system of being unhappy intelligently.

### New Dealer:

What the gambling house sends in when players start winning.

### Verses of the Week

Here be the bones  
Of Mary Meek  
Her will was strong  
But her won't was weak.

I'm mad about the color green,  
I think it is a honey,  
On tree and grass and rare old glass,  
And best of all, on money.

—BEULAH SMITH

### Success Stories

At the age of nine a lad emigrated to this country. Twenty-four years later he was a top radio executive. That's how long it took David Sarnoff to reach his great goal in the United States of America. Incidentally, Sarnoff long has been noted for his radiant optimism. And with good reason!

Another youngster labored as a railroad rodman when most boys were going to parties and frequenting billiard parlors. Forty-two years later he was head man of

(Concluded on Page 8, Col. 4)

## ARI Names Emmett Pres., Hears DuPont Plan For Consumer Study

HOT SPRINGS, Va.—The first consumer-attitude research program ever undertaken for the air conditioning industry will be launched this summer by the du Pont Co.



J. Emmett, Jr.

Results of the study will be made available to the industry next fall as a guide to its promotion and advertising program for the 1956 season.

This was announced here before the annual meeting of the Air-Conditioning & Refrigeration Institute by Robert J. Thompson, director of sales of du Pont's Kinetic Chemicals Div. which markets refrigerants.

Commenting on the announcement, James Emmett, Jr., who was elected president of ARI during the group's annual meeting at The Homestead here, said:

"This study comes at a time when our industry is at the threshold of its greatest expansion. The market for air conditioning has grown tremendously in the past ten years. If it continues to grow at a comparable rate during the next five years, we should enjoy a 46-times increase by the end of 1960.

"A study such as proposed by the du Pont Co.," said Emmett,

### Air Conditioner Owners Get Water Conservers Far Ahead of Deadline

ST. LOUIS—Though a \$40 per ton surcharge on water use for non-conserving air conditioners is still two years away, owners of such equipment here are not losing any time acquiring water saving devices.

A survey made by the St. Louis County Water Co. found one retailer of cooling towers had increased his business 50% over the same period last year and another reported he has sold 200 towers already this year.

The survey further indicated that nearly all new installations include water conserving devices.

Although it was only last month that the Missouri Public Service Commission approved the \$40 per ton demand charge on non-conserving

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### Auburn, Neb. May Control Water-Using Conditioners

AUBURN, Neb. — The City Council has started proceedings which would make Auburn one of the first outstate Nebraska cities to bring water-using air conditioners under control of the city government.

An ordinance has been framed making it necessary for any one installing air conditioning equipment to get permission from the Council, which in turn will insist on the installation of water conservators along with the air conditioners.

Auburn's water supply has been determined to be adequate for "normal" use, but the increasing use of air conditioners is posing a serious problem, according to Mayor Floyd W. Pohlman.

During the past five years, the

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HOT SPRINGS, Va.—A 31% jump in room air conditioner sales for the first five months of 1955 as compared with the same period last year was reported by the Air-Conditioning & Refrigeration Institute at its annual convention here.

The sales increase accompanies a 40% drop in factory inventories and a 28% decline in distributor inventories from the level prevailing during this period last year, ARI said.

These figures were interpreted by association officials to indicate a wider acceptance of air conditioning for home use.

"can reveal certain consumer attitudes toward air conditioning about which we lack sufficient information. If this is so, it is entirely possible that we may have to revamp our promotional approach so that we can bring about an even greater rate of growth for our industry."

The market research study to be

(Concluded on Page 4, Col. 2)

## Carrier 6-Month Net Hits \$3,652,556 With Profits of AGE

SYRACUSE, N. Y.—Net profit of Carrier Corp. for the six months ended April 30 was \$3,652,556, including earnings for that period of the former Affiliated Gas Equipment, Inc., which was merged into the corporation on March 1, 1955.

This net profit after preferred dividends amounts to \$2.09 on each of the 1,692,209 shares of common stock presently outstanding.

For purposes of comparison, the earnings of Carrier for the six months ended April 30, 1954, have been combined with those of Affiliated Gas for the first half of its last fiscal year which was the six months ended June 30, 1954. The total was \$3,936,220 or \$2.26

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### Louisville BBB Magazine Tries To Educate Public On Room Unit Ratings

LOUISVILLE, Ky.—The local Better Business Bureau is taking steps to educate the public on room air conditioner advertising, particularly as regards ratings.

The lead article in the BBB's monthly publication, *Horizons*, was devoted to this subject.

"Planning to buy a room air conditioner?" the agency asked readers. "And have you been mystified by the advertising about such devices in terms of 'half-ton,' 'three-quarter-ton,' or 'horsepower' ratings? You're not the only one!"

The BBB then pointed out that the industry intends to begin rating coolers by British Thermal Units based on American Society of Refrigerating Engineers standards.

The bureau said special pamphlets on room air conditioners will be sent to member major appliance dealers for distribution to potential customers. The pamphlets, which are free, explain the meaning of B.t.u. and provide other information.

## N.Y. Considering New Safety Code For Refrigeration

NEW YORK CITY—Majority Leader Joseph T. Sharkey on May 31 reintroduced in the New York City Council legislation designed to give New York City a new and complete mechanical refrigeration safety code.

The bill is a revision of two measures originally introduced by Sharkey some two years ago and represents the results of a long period of research and study by a group of specialists working under the auspices of the Commerce and Industry Association of New York, Inc. Throughout its work on this legislation the study panel had a representative of the Fire Dept. at all of its meetings, and states that it was guided by the views of a 53-member advisory review committee acting for consumer, union, professional, technical, manufacturer, and installer groups and organizations.

The safety code features of the

(Concluded on Back Page, Col. 1)

## Testut Heads Servel Home Appliance Sales

EVANSVILLE, Ind.—Establishment of a separate home appliance sales division by Servel, Inc., with



R. S. Testut

Richard S. Testut as vice president and general manager, was announced recently by Louis Ruthenburg, the company's board chairman, and Duncan C. Menzies, president.

Testut joined Servel earlier this year as assistant to the president and director of business planning. In April he was designated acting

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## Bankers Told To Keep Closer Watch on Instalment Credit

NEW YORK CITY—The American Bankers Association recently advised members to keep a closer watch on their instalment credit.

"Developments in the instalment credit field during the past several months have caused some apprehension among bank and finance leaders," the association's Instalment Credit Commission asserted. "This is more particularly reflected in the present conditions and practices involved in the financing of automobile sales."

In its periodical "Timely Notes

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## Marts Open June 20; Plan 'Bull-Session'

Expect Appliance Mfrs.  
To Offer Convenience  
And Color Features

CHICAGO—Greater use of color and increased convenience combinations are expected to highlight major appliance exhibits at the summer home furnishings market opening here on June 20.

The two-week event will extend through July 1 at both the Merchandise Mart and the American Furniture Mart.

Appliance manufacturers reportedly expect current high levels of appliance sales to stimulate dealer and buyer interest in merchandise that will continue to upward trend.

Two changes in manufacturers' space are reported from the Merchandise Mart. Hamilton Mfg. Co. has moved into space 1175 and Radio Corp. of America into space 11-111.

New this year will be an all-day "bull-session" Saturday, June 25 for appliance dealers sponsored jointly by the Merchandise Mart and the National Appliance and Radio-TV Dealers Association.

This will be staged in the Merchant and Manufacturers Club on the second floor of the Merchandise Mart. Four panel discussions of about 1½ hours duration each, a Mart-sponsored luncheon, and a wind-up cocktail party at 4:30 p.m. are planned.

Harry B. Price, president of NARDA, will lead off the program at 9 a.m. with a round-table on "Salespower—How to Make the

(Concluded on Back Page, Col. 4)

## Schmuck Is Drayer-Hanson National Sales Manager

LOS ANGELES — Fred S. Schmuck, formerly sales manager of the Boiler, Radiator and Air



F. E. Schmuck

Conditioning Div. of United States Radiator Corp., has been appointed national sales manager for Drayer-Hanson, Inc., it is announced by H. T. Hunt, Drayer-Hanson general manager.

The West Coast manufacturer of air conditioning, refrigeration, and heat-exchange equipment is a subsidiary of the recently-formed National-U. S. Radiator Corp.

For the past five years,

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In Series Covering All Leading Makes . . . . . 26



### 431 All-Electric Homes In Calif. Will Include Air-Source Heat Pumps

FULLERTON, Calif.—A project of 431 all-electric homes opening here will use an air-source heat pump for year-round air conditioning.

The homes in this project are in the \$16,500 to \$21,500 price class.

In addition to the Weathertron heat pump, other electric appliances included in the price of the home are oven, range, dishwasher, garbage disposer, refrigerator, combination washer and dryer, and water heater. There are no combustible fuels used anywhere in the project.

According to the General Electric Co. this is the largest sale of heat pumps yet made. The previous record sale, also G-E units, involved 89 Weathertrons in a Miami motel-hotel.

Developer of the project is Kusa, Inc. Southern California Edison Co. supplies all power needs of the homes. J. B. Edmondson Co. of Santa Ana, a franchised Weathertron dealer, installed the heat pumps.

#### NEW PRODUCTS?

Turn to "What's New" Page for useful information on new products. Use Key No. for fastest service.

### Barnes Is Kelvinator Merchandising Mgr.

DETROIT—Appointment of Edmund B. Barnes to the new position of general merchandising



E. B. Barnes

manager was announced recently by Walter Jeffrey, vice president in charge of sales, Kelvinator Div. of American Motors Corp.

Jeffrey said Barnes, Pacific Coast regional manager for the last six years, will be responsible for all Kelvinator sales planning and promotion, market research, and advertising.

With Kelvinator since 1936, Barnes has more than 22 years' experience in the appliance industry, in sales, sales promotion, and sales management capacities. A graduate of DePauw university, Greencastle, Ind., he began his business career in 1932 as a retail appliance salesman in Cleveland.

After two years as promotion manager for the Electrical League of Cleveland, Barnes joined the Kelvinator advertising and sales promotion department at Detroit headquarters. He moved to Los Angeles in 1940 as manager of the Kelvinator branch there.

### So. Calif. RACCA Efforts End Waste Water Threat

LOS ANGELES—The threat to the growth of air conditioning here because of possible restrictions on the disposal of water has been generally dissipated, through the action of the Refrigeration and Air Conditioning Contractors Association of Southern California, Inc.

The Los Angeles Bureau of Sanitation for a time threatened to enforce a long-ignored rule prohibiting run-off of clear waste water into the sewer system in excess of 25 gals. per hour.

However, the contractors' group got an agreement from city officials that water used by air conditioning systems is not "industrial waste water" and hence not subject to the regulations, reports Henry B. Ely, executive secretary of the association.

While certain regulatory measures have been invoked, permits for cooling systems have been passed as a matter of course.

In another activity of the association, many general contractors in the area are listing sub-bidders on public work projects. This was requested, Ely says, to stop the peddling of bids after the general contract had been awarded.

### Cooling for Cars at Drive-Ins May Double Operating Season



A.R.A. auto air conditioner gets a test with a "maximum heat load." Tube on the left emits cool air while other opening is for withdrawal of hot air.

FORT WORTH, Texas—A.R.A. Mfg. Co. here, independent maker of automobile air conditioning units, has announced development of a drive-in air conditioner "to give patrons of outdoor movie and eating establishments the same comfort as they get in indoor houses."

The new unit, designed by William E. Lind, vice president and general manager of A.R.A., is similar to a room air conditioner and has many of the same component parts, it was pointed out.

It is mounted on a stand above or alongside a parked car. Two tubes are attached to the car window, one feeding cool air in, the other pulling used air out. In the winter, warm, dehumidified air is fed into the car.

Lind, pointing out that air conditioning in cars operates only when cars are moving, predicts that the A.R.A. unit will double the operating season of all drive-in establishments.



YOUNG LADY teases patron with a sample of cool air from tube which mounts in car window.

### Worthington Franchises Winters Co. of Nashville

NASHVILLE, Tenn.—James H. Winters Co., air conditioning and heating contractor, has been granted a franchise in middle Tennessee and part of Kentucky for Worthington Corp. air conditioning equipment.

According to Winters, the franchise covers both residential and commercial equipment including water cooled and waterless units in two to 15-ton packages, and 15 tons upward in central stations.

R. B. Stamps, a veteran of 10 years in the air conditioning field, has been named manager of the air conditioning department. He is secretary of the Winters firm.

### Servel April and May Shipments Top 1954

EVANSVILLE, Ind. — Factory shipments of Servel refrigerators for April and May were far ahead of shipments for corresponding months last year, according to Richard S. Testut, vice president and general manager of the company's home appliance sales division.

Refrigerator billings for April were 49.3% ahead of billings for April, 1954.

Billings for May were 33.7% greater than for May of last year.

In sizes where the company's "automatic ice-maker" is optional, 60% of all Servel refrigerators shipped were so equipped, Testut said.

### Jim Hegan, Otto Graham Find Business So Good In Cleveland They Make Second Move

CLEVELAND—A venture into the appliance business by two widely-known Cleveland sports figures—Jim Hegan, catcher for the Cleveland Indians, and Otto Graham, Cleveland Browns' quarterback—proved so successful that they recently made their second move to larger quarters.

The firm of Hegan & Graham, Inc. is now located at 1747 Euclid Ave. where customers have more shopping space and parking facilities are more convenient. In addition to major and small appliances, the company handles such merchandise as summer furniture, luggage, sporting equipment, jewelry, power lawn mowers, and picnic items.

The business venture began at a

birthday party for Graham two years ago. The idea of an appliance and sporting goods store appealed to Graham and Hegan and after working out their plans they opened their first office.

They outgrew this space within four months and moved into larger quarters in the same building. When Christmas season shoppers lined up in the halls waiting to get into the store, the owners decided to move to their present, larger quarters on Euclid Ave. at E 18th St.

Hegan is president of the concern and Graham vice president. Other officers are George McKinnon, vice president; Henry Hawgood, secretary; John Hayes, treasurer; Gaylon Smith, director.

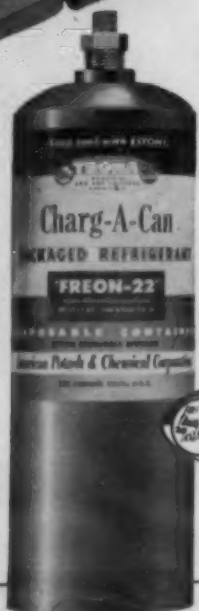
## Score with FREON<sup>®</sup> in Charg-A-Cans<sup>®</sup>



### THE WORLD'S LEADING REFRIGERANT IN THE INDUSTRY'S BEST PACKAGE

You score two ways when you use duPont's "Freon" in Eston's convenient and economical CHARG-A-CANS. "Freon," the versatile and low cost refrigerant, was originally developed by duPont more than 24 years ago. Since that time duPont's continued research has developed "Freon" into the safe and efficient refrigerant chemical it is today.

Packaged and distributed by Eston, "Freon" refrigerants in CHARG-A-CANS are setting the pace for the entire industry with controlled purity, accurate charging, and time-saving disposable containers. A strong, dependable source of supply for the world's finest refrigerants—in the industry's best package.



ESTON CHEMICALS DIVISION  
**American Potash & Chemical Corporation**

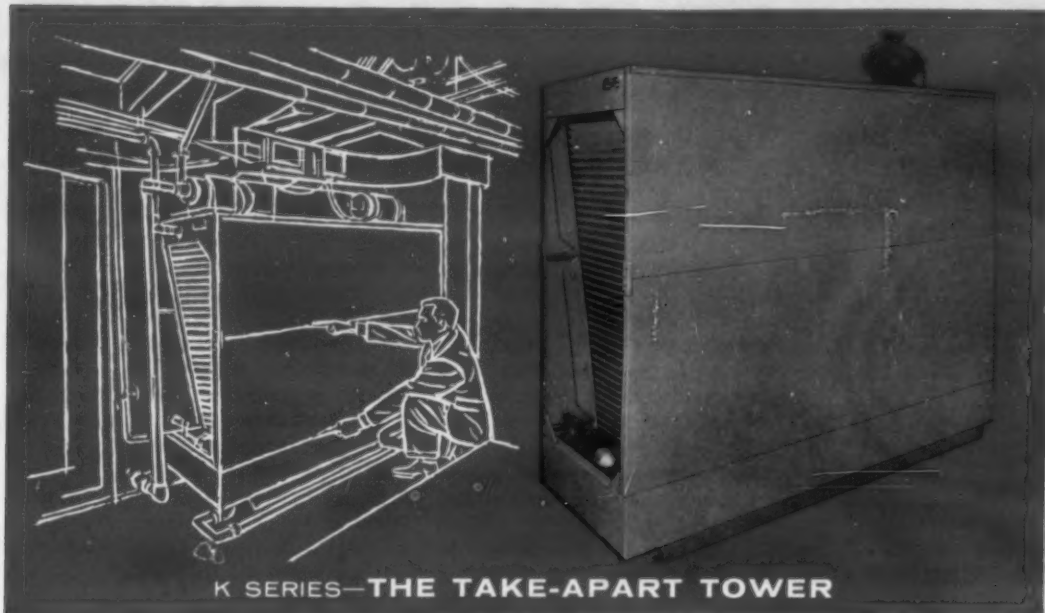
Offices: • 3100 East 26th Street, Los Angeles 23, California  
• 99 Park Avenue, New York 16, New York

Authorized distributors of **DU PONT** "FREON" refrigerants  
"Freon" is a DuPont Trade Mark

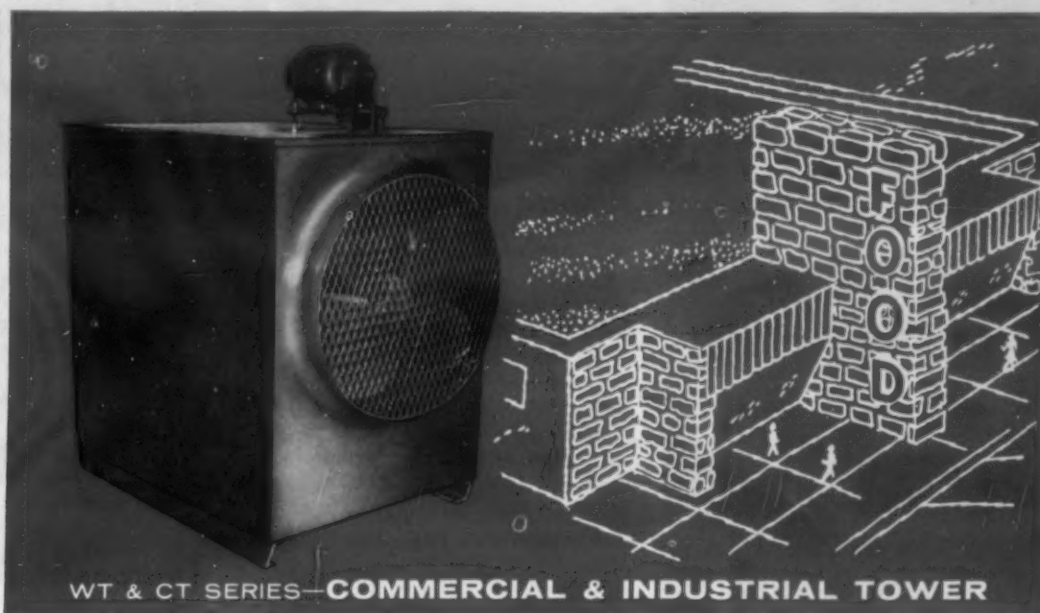
Other offices: DETROIT • CHICAGO • DALLAS • ST. LOUIS • ALBANY • ATLANTA • DENVER • SEATTLE

**MORE COILS** ARE MADE BY  
**KRAMER**  
THAN BY ANY OTHER COIL MANUFACTURER





K SERIES—THE TAKE-APART TOWER



WT & CT SERIES—COMMERCIAL & INDUSTRIAL TOWER

**Only HALSTEAD & MITCHELL offers ALL these types of cooling towers!**



RE SERIES—THE RESIDENTIAL TOWER



KB SERIES—THE CENTRIFUGAL FAN TOWER

**and only HALSTEAD & MITCHELL offers the 20-Year Guarantee!**

on the wetted deck surface against rotting or fungus attack

You select the type of Halstead & Mitchell Cooling Tower you need from a line designed to meet *applications*. There's no reason to "make do," with consequent penalties to you or your customers. Here's the industry's *broadest* selection.

**Need cooling towers for industrial or commercial use?** Then Halstead's WT and CT towers are designed in a range from 2 to 120 tons specifically for these applications. Indeed, the CT-line is the only one in the industry which makes use of 10-gauge sheet steel for cabinets—providing an added measure of life—a major sales value for the supermarkets, for instance.

**Need a cooling tower which can be taken apart for installation in difficult places . . .** and thus can be moved easily to roof tops without the expense of riggers, or down narrow stair wells for basement installations? Then try the K-Series of Halstead & Mitchell Take-Apart Cooling Towers. It's the only cooling tower made which is designed for this feature.

**Need a residential cooling tower specifically designed and priced for the home market?** In leading the way into this field,

Halstead incorporated the major quality features which had made it the industry's top seller in the commercial field, yet kept in mind "price"—fundamental in selling to the home market.

**Need ultra-quiet operation?** Halstead & Mitchell's centrifugal fan cooling tower for home, hospital and other "hush" applications can be relied on to meet stringent decibel codes.

**Need quality?** Only Halstead & Mitchell offers the 20-Year Guarantee on the wetted deck surface against rotting or fungus attack. H & M exclusively provides Protected Steel, a new concept in protecting steel against corrosion—for added years of cooling tower life.

**Want more details?** The coupon below is for your convenience.



**GET FULL DETAILS ON AMERICA'S FASTEST SELLING COOLING TOWERS**



**Halstead & Mitchell**

BESSEMER BUILDING • PITTSBURGH 22, PA.

Horace I. Schmidt, General Sales Manager  
HALSTEAD & MITCHELL, Bessemer Building, Pittsburgh 22, Pa.

**Yes** I'm interested in learning the full Halstead & Mitchell Cooling Tower story. And I'm especially interested in literature describing:

- ☐ COMMERCIAL AND INDUSTRIAL TOWERS ☐ RESIDENTIAL TOWERS  
☐ TAKE-APART TOWERS ☐ CENTRIFUGAL FAN TOWERS

I'd like to sell Halstead & Mitchell Cooling Towers. Please send me more details. ☐

Firm Name	Your Name	Position
Address	City & Zone	State



To Be  
**SURE**  
of Satisfaction

Be **SURE** to Specify  
**READING**  
**COPPER**  
**TUBING**

FOR REFRIGERATION  
& AIR CONDITIONING  
EQUIPMENT



**READING**  
TUBE CORPORATION

EMPIRE STATE BUILDING  
NEW YORK 1, N. Y.  
WORKS: READING, PA.

## Emmett Elected President of ARI--

(Concluded from Page 1, Col. 3)  
undertaken this summer will be the first of an annual series, Thompson told the ARI members. The initial study will center around room air conditioners.

The survey will be conducted by an independent research agency. It will be conducted on a personal interview basis in urban centers.

Thompson pointed out that the "need for factual information on how people feel about air conditioning, why they buy it, and what they like and dislike about it," is "one of the most pressing problems in the industry today."

Facts about how air conditioning affects the health and living habits of owners are also expected to be revealed by the survey. Subjects of the interviews will include non-owners of air conditioning equipment as well as owners.

Surveys to be conducted in later years will be devoted to such topics as central station residential air conditioning, commercial and industrial air conditioning, and industry sales practices.

D. C. McSorley, advertising manager of Kinetic Chemicals, and Joseph Hoopes, manager of the division's market research division, outlined the details of the survey.

Besides Emmett, who is vice president of James P. Marsh Corp., other officers elected by ARI were M. M. Lawler, vice president of the Worthington Corp., vice president;

and Lud Emde, president of Temp-rite Products Corp., treasurer.

Seven new members were elected to the 21-man board of directors. They were:

C. E. Buchholzer, president, Airtemp Div., Chrysler Corp.; C. V. Gary, vice president, Henry Valve Co.; E. B. Maire, vice president, Penn Controls, Inc.; B. A. Mitchell, president, Mitchell Mfg. Co.; R. J. Powell, merchandising manager, The Marley Co.; L. W. Smith, manager, Commercial and Air Conditioning Sales Dept., Frigidaire Div., General Motors Corp.; and Emde.

## Dalton At Worthington As Product Manager

HARRISON, N. J.—Peter J. Dalton has joined Worthington Corp. as product manager of the Air Conditioning and Refrigeration Div.'s packaged products section, according to M. M. Lawler, vice president. Dalton will be headquartered here.

Dalton previously served as vice president and general sales manager of the Davison Distributing Co., Detroit.



P. J. Dalton

## U. S. Files Civil Suit To Stop School's Allegedly Misleading Representations

WASHINGTON, D. C.—Attorney General Herbert Brownell, Jr. recently announced the filing of a civil suit charging Morris A. Gluck, Beverly Hills, Calif., with violating a Federal Trade Commission order to cease and desist misleading representations regarding correspondence courses in air conditioning and refrigeration which he sells and distributes.

The action was filed for the Federal Trade Commission in the Federal District Court at Los Angeles by the office of the United States Attorney Laughlin E. Waters. It asked the court to impose penalties of \$140,000. The suit is in 12 counts charging specific violations of the cease and desist order issued by the Federal Trade Commission, March 27, 1941.

Gluck controls the Air Conditioning Training Co., Inc., which has its principal place of business at 789 Wick Ave., Youngstown, Ohio. The Federal Trade Commission's order was based on its findings, after investigation and hearings, that Morris A. Gluck, and others, were using unfair and deceptive acts and practices, says the Justice Department.

Specifically, the Commission found that the respondent corporation, of which Morris A. Gluck was vice president, "in soliciting the

sale of and in selling its said courses of instruction, has made numerous misleading representations in its radio broadcasts, advertising literature, and selling."

These practices, the FTC said in its findings, have "the tendency and the capacity" to mislead purchasers and prospective purchasers of courses "into the erroneous and mistaken belief that such representations are true."

The provisions of the FTC order alleged to have been violated prohibited representations:

"That students completing the training are assured jobs in the air conditioning and refrigeration industry, or that such jobs are guaranteed or will be secured by the company; that courses are given in cooperation with the industry or that the industry sponsors such training, or made arrangements to give employment to those completing the training; that vacancies exist in the industry, or that there is a demand not satisfied through normal channels; that part-time work is available to students while taking the courses or that these students are qualified for the work; that any persons other than those with previous mechanical experience or aptitudes are qualified to take the training and work in the industry."

# NEW... "PLUG-IN" ROOM THERMOSTAT for year 'round air conditioning

**MOST SIMPLE  
INSTALLATION EVER!**

Make all connections  
on mounting base...  
then, simply "plug in"  
the thermostat.



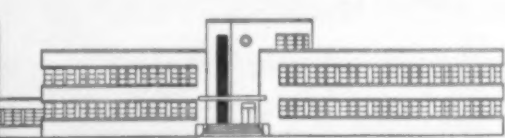
**IN ADDITION...**

**no other thermostat has all these great features!**

- Compact, modern horizontal "New Look" in room thermostats.
- Attractive neutral-colored plastic cover blends with any color scheme.
- Single dial heating and cooling setting simplifies homeowner's operation.
- Penn "heat anticipation" holds heating temperature within one degree of selected level.
- Penn "cold anticipation" assures closer control of cooling temperature and lowest relative humidity.
- Complete flexibility of fan control to meet all design and application conditions.
- Choice of one manual switch for system and one for fan... or single manual switch combining both.
- Snap-acting magnet contacts, time-tested on Penn heating and cooling thermostats in over 20 years of field experience.
- Changeover from heating to cooling may be manual only; automatic only; or combination manual and automatic for homeowner selection according to his needs.
- Seven models available... for cooling only; heating and cooling; or heating and two-stage cooling... to fulfill all possible air conditioning needs.

Don't settle for less when Penn costs no more! Be sure the packaged air conditioning you sell and install is fully equipped with Penn automatic controls. **Penn Controls, Inc., Goshen, Indiana.**

**PENN**



**AUTOMATIC CONTROLS**

FOR HEATING, REFRIGERATION, AIR CONDITIONING, GAS APPLIANCES, PUMPS, AIR COMPRESSORS, ENGINES

## Auburn Water Control--

(Concluded from Page 1, Col. 2)

city's water consumption has increased about 35%. There are about 75 water-using air conditioners, most of them in business houses, in the city of nearly 4,000 population.

The mayor noted that a study showed 50% of the water goes for "normal" use, 37½% for air conditioners, and 12½% for swimming pool, park care, etc.

He added that it hardly seemed feasible to expand water capacity and facilities to meet needs of the relatively small number of air conditioners. Last year the city used 105,000,000 gals., with peak on some summer days as high as 750,000 gals.

The new ordinance provides not only that air conditioners employing water be equipped with conservators but also for disposal of water from air conditioners through the storm sewer system instead of the sanitary sewers as at present.

## American Furniture Mart Exhibitors Can Install Cooling on First 19 Floors

CHICAGO—Exhibitors on the first through the 19th floor of the American Furniture Mart will be able to air condition their showrooms during the summer market.

The mart recently signed a contract with Commonwealth Edison Co. under which lines for an electrical system will be provided so exhibitors can install their own dry-type unit air conditioners. They can purchase power from the mart.

It was also reported that the dining room and cocktail lounge of the Furniture Club of America are expected to be air conditioned for the June market. In all, the building now has 120,000 sq. ft. of air conditioned space.

## Copper User Can Get Diverted Material Direct from Supplier

WASHINGTON, D. C.—The Commerce Dept. has announced that it will cease supervising distribution of copper sold to industry from the Defense Production Act inventory or from scheduled deliveries to the government under the Stockpiling and Defense Production acts.

The agency said consumers of refined copper may negotiate directly with suppliers of the diverted copper to meet their requirements. It will no longer be necessary to submit applications to the Commerce Dept. to share in the available supply.

## St. Louis Water Savers--

(Concluded from Page 1, Col. 2)

ing air conditioning equipment, the water company had filed application for such a charge nearly a year ago. The demand charge is in addition to regular water rates.

The water company had requested that the demand charge take effect this year. But the public service commission granted equipment owners two years in which to alter their systems. The year's discussion, it was reported, alerted equipment owners to the savings possible in both water and money from installing conservers and stimulated the current buying wave.

## Schmuck Named--

(Concluded from Page 1, Col. 5)

Schmuck's activities at U. S. Radiator were concerned with sales and sales management. For the five-year period previous to that, he held key posts in the engineering division of the company. He joined the organization in 1945, after World War II and duty with the U. S. Air Force.

**MORE COILS** are made by  
**KRAMER** than by any . . .  
other coil manufacturer



## NAED Will Drop Appliances, TV From Activities

CHICAGO—The National Association of Electrical Distributors will drop appliances and television from the scope of its activities as of July 1.

Arthur W. Hooper, executive director of the association, said the move was made because the association feels its best work can be done in those lines where manufacturers use multiple wholesale distribution rather than exclusive, single line distribution.

After next month, the association will confine itself to the multiple wholesale distribution field, he said.

He pointed out that major appliance distributor members of the association who do not handle such items will be permitted to stay as associate members.

As a result of the move, NAED has abolished its separate vice presidents for the apparatus and supply division and the appliance division. In their place, it has elected four regional vice presidents, one each for the eastern, southern, central, and western sections of the country.

## Servel Net Sales Total \$24,265,397 for Half

NEW YORK CITY—Sales of Servel, Inc. for the six-month period ended April 30, 1955, were down from 1954 figures, but the company's expenses were also reduced, resulting in a smaller net loss than last year.

Sales of air conditioning, refrigeration, and aircraft equipment for the first half of the current fiscal year totaled \$24,265,397—less than half of the \$56,829,531 sales total for the same period last year, the company has announced.

The company's net loss at the halfway mark this year was \$1,914,337—or a decrease of \$788,308 from last year's six-month loss of \$2,702,645.

In a report to directors on the first six months of the current fiscal year, Louis Ruthenburg, Servel board chairman, and Duncan C. Menzies, president, said that the decline in civilian product sales volume was due principally to a heavy carryover of room air conditioners by distributors and dealers, and in part to lower prices on refrigerators and other appliances.

The report also showed that, as of April 30, 1955, Servel's borrowings were \$6,640,000 lower than they had been on April 30, 1954, and that the company's accounts payable were \$7,000,000 less than they had been a year before.

Total inventories, both civilian and defense, were reduced by \$4,300,000 during the six-month period, and further reductions are planned during the remainder of the fiscal year.

Servel's sales for the third quarter ending July 31 are expected to reflect a substantial increase, the company said.

## Refrigeration Discount Promotes John R. Powell To Assist. Mgr. In Detroit

DETROIT—John R. Powell has been promoted to assistant branch manager of the Detroit office of Refrigeration Discount Corp., sales financing subsidiary of American Motors Corp.

Announcement of Powell's promotion was made by C. R. Brogan, president and general manager of Redisco.

Powell joined Redisco in 1952 as a field representative serving appliance distributing points in Wisconsin and western Michigan. He moved to the Detroit branch in 1954.

## Hotpoint To Begin Shipping Appliances In Color In Latter Part of June

CHICAGO—In the latter part of June, Hotpoint Co. will begin shipping refrigerators, ranges, clothes washers and dryers, and dishwashers in color.

Five colors—yellow, green, pink, blue, and brown—will be available on special dealer order, it was reported.

List prices of color finishes will run about \$10 more than white finishes, it was estimated by the company.

With the availability of color, Hotpoint will have three finishes—white, satin chrome, and color.

## Kelvinator Names E. C. Ramsey Purchasing Agent In Detroit

DETROIT—Earl C. Ramsey, administration staff member for the last four years, recently was named purchasing agent for the Detroit plant of Kelvinator Div., American Motors Corp.

Announcement of Ramsey's promotion to the new position was made by W. F. Poupard, works manager at Detroit.

Ramsey had been assigned to special manufacturing and procurement problems in his previous position.

## 'Device Diminishes Retailer's Worth'

## NARDA Opposes Centralized Service In Letter to Parts Jobbers Association

DENVER—Opposition to centralized service as a "device which diminishes the worth of the retailer" was expressed by the National Appliance and Radio-TV Dealers Association to the Appliance Parts Jobbers Association at the latter's recent trade show and service seminar here.

Charles S. Skiff, managing director of the parts jobbers group, read a letter from A. W. Bernsohn, managing director of NARDA, informing the parts jobbers that NARDA's full membership and the executive board have taken a position strongly opposing all centralized service.

Appliance dealers feel, the letter said, that centralized service also causes separation between his cus-

tomers and the retailer and . . . fails to allow ample recognition to the established type of merchant."

The letter continued: "We have never taken an official position seeking a fixed discount on parts for dealers because of the varying circumstances under which they operate, some stocking parts, and others securing them as needed from a local supplier."

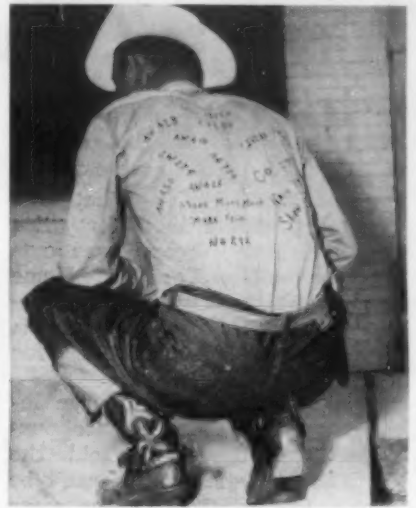
"However, many of the retailers have found ways of securing 40% discount through mass purchases or by finding sources that automatically provide that, and naturally, we seek as much discount for the retailer as is economically feasible, without letting it become so large that it puts the retailer at a competitive disadvantage because of his non-competitive price."

## Hotpoint Records Best Month In Its History

CHICAGO—Sales of Hotpoint appliances during the month of March were the best in a single month in the company's history. Hotpoint Co. in 1955 had the best first quarter in its history, exceeding the banner appliance years of 1950 and 1951, John C. Sharp, president, announced.

Factory shipments of appliances for all-electric kitchens and home laundries, as well as retail movement of appliances into consumer above those of the first quarter of 1954.

Augmenting the sales trend is a nationwide sales campaign which got under way in May.

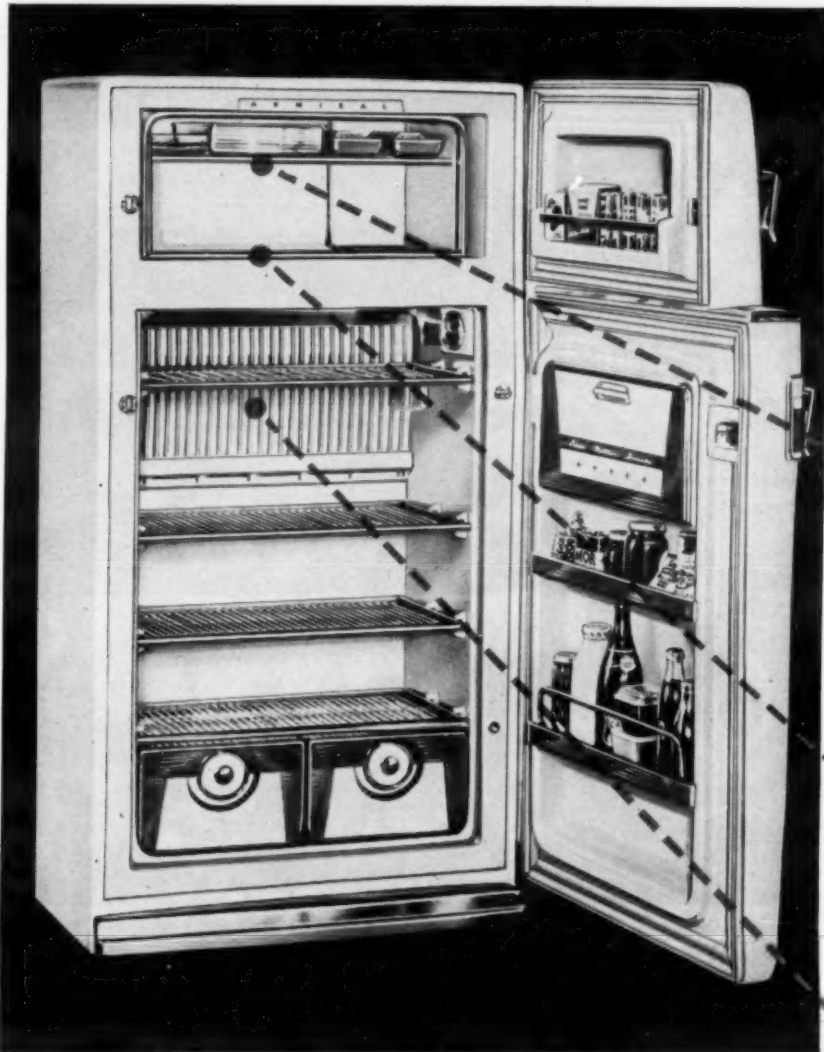


## Human Billboard

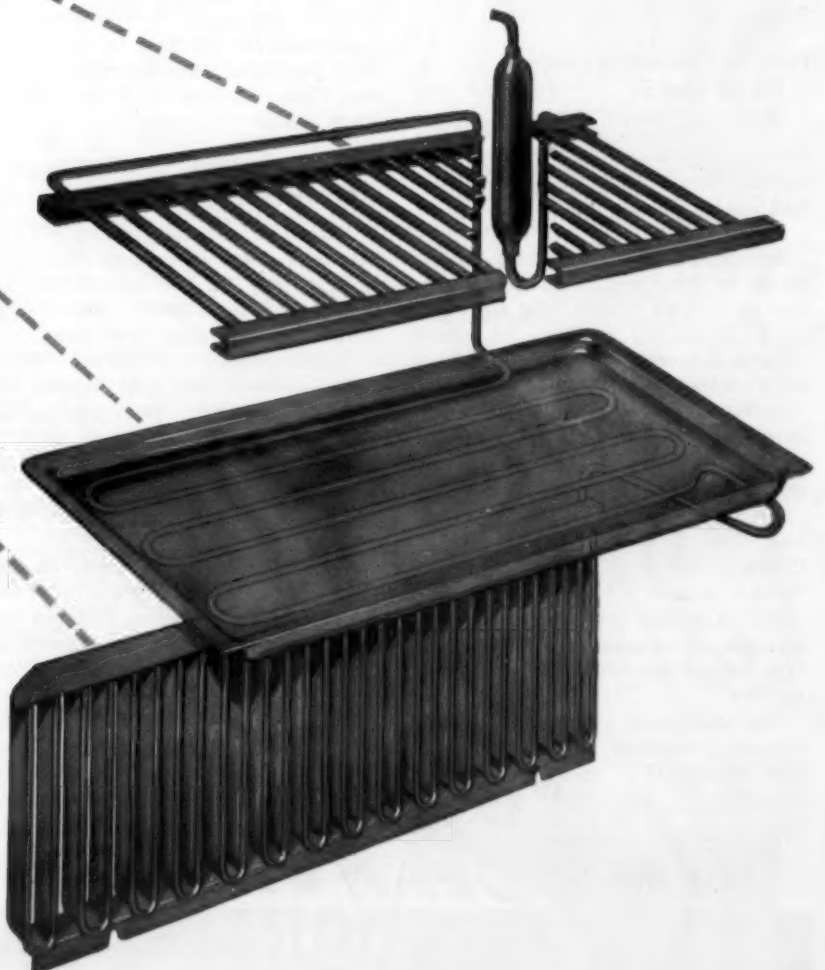
NORGE WHOLESALERMAN Chuck Marsh wore a shirt emblazoned with model numbers and slogans at the recent open house held by Automatic Distributing Corp., Houston, Texas. Chuck hand-lettered the notations which were then hand-stitched by Mrs. Marsh (the job took her eight hours). "It made it easier for the dealers to remember model numbers, and get into the spirit of the meeting," explained Chuck. "Note too the T.W.O. on the wallet pocket—an appropriate place for the Norge profit-sharing symbol."

## To Cool New Medical Bldg.

ARLINGTON, Va.—A five-story, air conditioned medical-dental building, to cost approximately \$650,000, will be erected on Fairfax Dr.



## Admiral's new Dual-Temp Evaporator manufactured by BOHN



- **New Simplicity**—Valves, solenoid coils, bypass circuits completely eliminated—for more trouble-free operation.
- **New Efficiency**—The freezer section combines a bottom freezing plate and a top "sub-zero" freezing shelf which is all "primary" surface constructed entirely of aluminum refrigeration tubing. The result is faster freezing, faster defrosting—better air circulation—easier cleaning.
- **New Beauty**—Entire unit is copper anodized to harmonize with latest kitchen color schemes.

A revolutionary new design demands reliable manufacturing skill and experience to assure its success. That is why Admiral naturally turned to Bohn. Working closely with Admiral engineers, Bohn manufactured this new evaporator as a single easy-to-ship unit. Whatever your evaporator problems, tube-on-sheet or bonded sheet, it will pay you to call on Bohn—the one manufacturer who has more experience than any other in the aluminum evaporator field.

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## What Mrs. Consumer Should Look for When Buying Home Freezer Outlined by Admiral Economist

SYRACUSE, N. Y.—What Mrs. Consumer should look for when buying a home freezer was outlined for the New York State Home Economics Association here recently by Mrs. Vivian Overand, director of home economics for Admiral Corp.

"The consumer has a large investment to make with her purchase," Mrs. Overand told the home economists, "so she can't be wrong. She must make the same deductions as a manufacturer to arrive at a decision that a certain model is best suited to her needs."

Before going in to her specific recommendations, Mrs. Overand pointed out that consumers are now purchasing \$1.5 billion worth of commercially frozen food a year, which is 4½% of all food sold.

### Only 15% of Families Own Home Freezers

In 10 short years, the frozen food business has increased 574%, she said. "Yet, only 15 persons out of every 100 own food freezers. With the increasing consumption of frozen foods, this figure is sure to change," she predicted.

"Freezer cabinets are changing to keep pace with the demand for special places for various shapes and sizes of these commercial packages," she continued. "Only this year the size of juice can racks had to be changed to accommodate the new frozen soup cans."

"Doors are made deeper to store some of the food out front. This deeper door eliminates everything being placed inside the general storage compartment, putting more food in 'easy to get at' places."

Mrs. Overand explained that a freezer manufacturer will make several models using the same basic materials. The only difference will be in the accessories or special features.

Function and years of service are identical, she said, but the difference in cost is for the addition of special features.

### How Is Freezer Going To Be Used?

Before shopping for her freezer, Mrs. Consumer must answer for herself three questions, Mrs. Overand said. The questions are:

"1. Is this freezer going to be used primarily for storing frozen foods or for freezing large quantities as well as frozen food storage?"

"2. How much space is available in a convenient location? This may determine the size and also whether a chest or upright model is needed."

"3. How much money are you going to spend?"

"After these decisions are made and the shopping starts," Mrs. Overand continued, "the important things to look for are:

"1. A really cold cabinet. Power enough to maintain air temperature of at least 0° F. under all conditions."

"2. Adequate freezing areas. Freezing surface large enough to fast freeze 15% of its total food capacity."

"3. Anti-sweat protection on cabinet."

"4. A guarantee or warranty on the cabinet, the motor, and the food."

"Each of these factors are important enough to warrant further discussion," she said.

"Size is always important. I only wish I could be specific in recommending an exact cubic foot capacity per person. Actually the way you use a food freezer determines the size you need."

"Freezers range in size from 3 to 30 cu. ft. Six cubic feet of freezer space per person will meet the requirements of most families. If freezing is to supplement other methods of food preservation, or if a locker plant is to serve as the main means of storage, 3 cu. ft. per person will probably be ample."

"Ten cubic feet per person may not be excessive when most of the food for the family's year of eating is frozen. In instances such as this, two freezers may be the ideal installation."

"Small freezers are becoming popular because of the tremendous sale of commercially frozen foods. They are used for storage only, while large freezers are advisable for extensive freezing and storing."

### Empty Space Is No Economy

"Empty space in a freezer is no economy according to Dr. Earl McCracken of the United States Department of Agriculture. Freezers run very little more to freeze food than to hold frozen food."

"Operating costs show that more than 90% of the electricity used annually for a freezer is to hold foods at 0° F., and less than 10% is used for freezing."

"On eight competitive freezers tested in our own laboratory, the kwh. consumption varied from 3.94 kwh. per day to 6.74 kwh. per day. These were no-load tests in a 90° room with cabinet air temperature maintained at -5° F. to 5° F."

"To determine the cost of operation, the kw. consumption would be multiplied by the rate in your own city. So from these figures you can see that an empty freezer uses kw's too."

### Greater Turn-Over Means Lower Cost Per Pound

"Another economy point is that the more food that 'goes through' the freezer, the less operating cost per pound. It is using, not saving, food in the freezer that pays."

"Government Bulletin #687 lists the operating cost figures as: 'No turn-over per year—\$28 per pound."

"50% turn-over per year—\$20 per pound."

"150% turn-over per year—\$13 per pound."

"Space available is also important. Today's construction cost for floor space is at least \$16 per sq. ft. When building or remodeling this cost should be considered also."

"The upright freezer has come into its own because of two factors: floor space and convenience. The combination freezer-refrigerator has supplied a need because of

the lack of space. This small combination freezer is used generally for frozen food storage."

### Things To Look For

"Always look for:

"1. A freezer made by a manufacturer whose business it is to make quality merchandise. This is your assurance of quality in materials and workmanship."

"2. A dependable dealer is important because of his ability to comply with any warranty and to give good service."

"3. A compressor unit large enough to provide enough refrigerating power to take care of any abnormal conditions requiring extra refrigeration. A compressor unit that runs no more than 50% of the time in a 90° F. room when no freezing is being done will give best all-round mechanical performance."

"If after a freezer is purchased it operates more than 50% of the time, be sure to notify the dealer during the warranty period."

"Freezers up to 15 cu. ft. should have ⅛ to ¼-hp. motors. Freezers 15 to 30 cu. ft. should have ¼ to ½-hp. motors. The motor capacity will depend on whether the freezer is used for storage or freezing."



## HOME & FARM FREEZERS



"4. Adequate fast freeze compartment. A separate freezing compartment in a chest type freezer is desirable. The temperature does not fluctuate as much if the food is frozen in this separate compartment. Dr. Winters states that temperature fluctuation is more hazardous to the quality of frozen food than a prolonged original freezing time."

"Enough refrigerated shelves in upright models to maintain a constant temperature throughout the cabinet. Refrigerated shelves provide more plate contact for fast freezing of foods. Open shelves provide better air circulation, while solid shelves give more contact surface. Our tests show practically no difference in temperature maintained."

"5. Thick insulation for maintaining efficient freezer temperatures inside the cabinet. Three to 6 in. is generally used. Where electric rates are high, insulation thickness is very important."

"6. A vapor sealed cabinet. This eliminates moisture from collecting in insulation which causes ice banks to form. If the cabinet is

not sealed, the results are wet floors which eventually rot out. Moisture in the insulation will destroy its effectiveness."

"7. An interior light is desirable, especially if freezer is not in a lighted area, such as basement corners or hallways."

"8. A tight fitting outer door or lid. A strong tension latch plus a good rubber or plastic gasket is double assurance of a tight seal. This prevents frost and cuts operating cost."

"9. Danger signal indicating when freezer temperatures are not adequate. Lights or alarms are in common use."

"There are many more construction features that are of great importance but every reputable home freezer that I know about has these general features. I am referring to such things as:

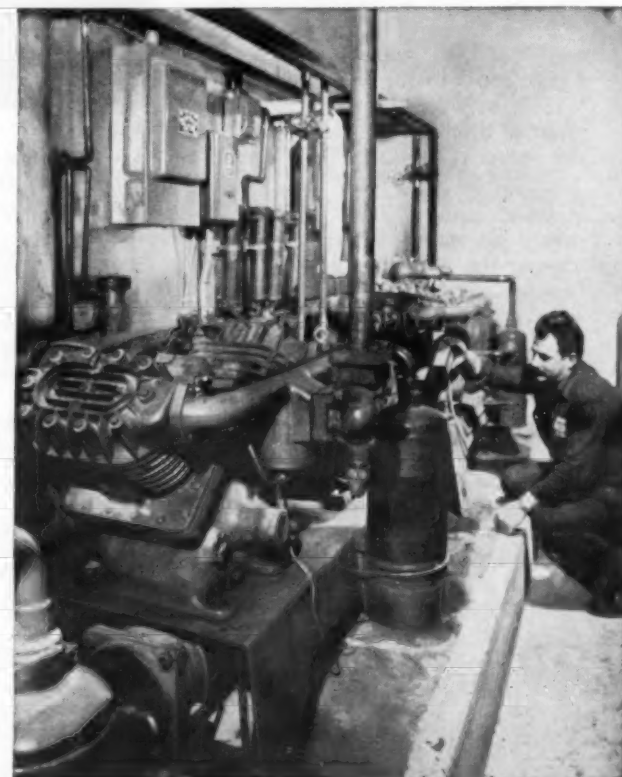
- "1. Stain resistant food liners.
- "2. Temperature regulator or adjustable control.
- "3. Exterior finishes that will retain their original finish.
- "4. Styling.
- "5. Warranty, etc.



• Right, the contact-plate room, where more than 20,000 pounds of meat are frozen daily in direct contact with plates through which "Freon" refrigerant flows. Below, an exterior view of the new Renaire plant.



• The make-up room, kept at 0°, where the frozen-food units are handled in the assembling of orders. Bill Renaire points out, "These units must be ready to run around the clock... we need absolute dependability."



• Renaire's new 500-ton installation. Whether you work on large systems or smaller ones, you'll be interested in chief engineer Earl Neff's comment: "Before we used 'Freon,' maintenance was a problem—now it's down to nothing!"

## How to

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## Auction of \$Multi-Million Super-Cold Corp. Facilities Scheduled for June 14 to 23

LOS ANGELES—The entire multi-million-dollar facilities of Super-Cold Corp., in "complete and final liquidation," will be sold piece by piece without limit or reserve during a series of seven auctions.

The auctions will be held here June 14-15, 20, 21, 22, and 23, starting at 9:30 a.m. Replacement evaluation of the facilities is \$3,107,235, according to M. J. Wershow Co., auctioneer.

The first auction is scheduled for Tuesday and Wednesday, June 14-15, at 850 E. 111th Pl. Up for sale will be production machinery, complete tool and die shop, refrigeration compressor manufacturing and testing equipment, refrigeration parts, inventory, and handling equipment. Evaluation of these facilities was given as \$1,182,141.

Office furniture and machines, autos and trucks, and office supplies—with a total evaluation of \$126,242—will be sold at the second auction. This is set for Monday, June 20, at 1020 E. 59th.

Facilities with an evaluation of \$306,000 will be sold at the third auction on June 21 at 850 E. 59th St. These include 60,000 ft. of land and a 44,525-ft., one-story building of concrete slab construction, with craneways.

The fourth and fifth auctions

also will be held June 21 at 850 E. 59th St. Heavy drawing presses and hydro and mechanical equipment valued at \$251,500 will be sold at the fourth auction. Offered at the fifth auction will be "tremendous quantities" of raw materials, component parts, motors and finished refrigeration units, new steel, etc., valued at \$516,193.

Auction No. 6 will be held June 22 at 1020 E. 59th St. Up for sale will be woodworking machinery, 220,000 ft. of dry kiln lumber, handling equipment, etc., with an evaluation of \$171,871.

The final auction is to be held June 23 at 1020 E. 59th St. To be sold at this auction are press brakes, power shears, punch presses, welders, engineering laboratory, and large quantities of standard production tools and supplies. Total evaluation of this equipment is \$553,276.

Wershow also noted that interspersed throughout the plants are tool cribs, inspection equipment, and desirable handling equipment.

### Air Cooled Chapel Planned

RALEIGH, N. C.—North Carolina State college's YMCA has announced plans to construct an air conditioned chapel.



R. P. Kelley



L. P. Hanson

## UsAirco Promotes Hanson And Appoints Kelley

MINNEAPOLIS—In two major executive changes at United States Air Conditioning Corp., L. P. Hanson has been named to the newly-created post of administrative vice president and R. P. Kelley has joined the manufacturing firm as its general sales manager.

Hanson, who has served since 1947 as vice president in charge of sales, will function as assistant to the president and as vice president in charge of engineering in his new post. He has been with the firm since 1929.

Kelley was formerly vice president and manager of the appliance division of Motor Power Equipment Co., St. Paul.

UsAirco also reports that A. J. Mallinckrodt has resigned as chief engineer due to illness and will enter the consulting engineering field at a future date.

## Utility Appliance Adds 105,000 Sq. Ft. to Plant

LOS ANGELES—Utility Appliance Corp. is adding a 105,000-sq. ft. building at its 4851 S. Alameda St. location, it has been announced by Herbert S. Leo, vice president and general manager.

The company manufactures heating, cooling, and air moving equipment under the "Utility" trade-mark, and also makes automatic gas ranges in its Gaffers & Sattler and Occidental divisions.

The new building is constructed of concrete tilt-up walls.

Utility officials said addition will give the company approximately one-half million square feet of manufacturing space in its California plants.

Approximately half of the manufacturing area of the new structure houses one of the latest and most complete methods of metal cleaning and paint finishing, it was stated.

"The installation includes all new high capacity cross draft paint spray booths and a double flow coater," the company pointed out.

"A five-stage double tunnel 'Bonderizing' system has been installed.

"The entire metal finishing process is conveyORIZED. A total of approximately 2,500 ft. of conveyor has been installed. The entire process of cleaning, Bonderizing, painting, and baking requires approximately two hours. Parts flow through the system automatically."

The remaining half of the manufacturing area is devoted to the final assembly of Utility products.

"The component parts have worked their way, step by step, in a 'line flow production method' from raw steel at one end of the building to the finished product, packaged and ready for storage or shipment, at the other end of the plant," it was noted.

## Auto Air Conditioners Become Catalog Item For Sears Roebuck

CHICAGO—Automobile air conditioners have now become a catalog item, at least for Sears Roebuck & Co.

Two styles of "front-end" units priced at \$289.50, (installation extra) are offered in Sears' 1955 midsummer catalog.

Magnetic clutch drive of the compressor is featured in both styles. One style, designed for Chevrolet, Ford, and Mercury, can use blower of original equipment car heater. It discharges air through two round, directional outlet grilles in cowl of dash. Return air is picked up through car heater system.

Other style, designed for Buick, Cadillac, Oldsmobile, Plymouth, and Pontiac models, mounts the evaporator-blower assembly beneath the dash. This also has two round outlet grilles.

Each unit, the Sears catalog states, is shipped complete, the unit being fully charged with "Freon-12" and "ready to use after system is properly purged."

In addition to the magnetic clutch control, which turns the unit on and off, the Sears "Allstate" unit has a suction pressure regulated by-pass valve at the suction valve of the compressor, judging from catalog illustrations. By-pass valve has a cable connection to dash control permitting manual over-ride for temperature control.

As for the installation, the catalog states "an experienced mechanic can install it in about eight hours' time. . . . If you wish, Sears may be able to help you arrange for installation. In many localities our regular engine installer can do the job; in others there may be other arrangements that can be made."

## Henry Announces Increased Capacity Ratings for Valves

MELROSE PARK, Ill.—Henry Valve Co. here has announced new increased capacity ratings for its more popular types of relief valves in sizes 1/2 in. through 1 in. for both "Freon" and similar refrigerants, and ammonia.

These valves are constructed in accordance with the requirements of the ASME Unfired Pressure Vessel Code and now carry the official marking symbol indicating National Board approval and capacity certification.

In the opinion of E. Jones, chief engineer of Henry Valve, this marking symbol also enables these valves to comply fully with the relief valve requirements of the ASA B9.1-1953 Refrigeration Code.

## Dealer Gives Conditioner To Lincoln, Mercury Buyers

BIRMINGHAM, Mich.—A free automobile air conditioner was offered recently by Bob Frost, Inc. here to purchasers of a Lincoln or Mercury automobile at "no increase in price."

In a newspaper advertisement, Frost said the air conditioner was a "nationally advertised" unit with nationwide service available. Installation and guarantee were included in the offer.



## sell to food-field prospects

Tell them about safe direct-expansion systems using "Freon" refrigerants

Food processors in your area may prove to be among your best sales prospects. Packers and storers of foods are always interested in hearing about safe direct-expansion refrigeration. And you can offer them complete freedom from fear of food contamination with the safest direct-expansion systems possible—systems charged with Du Pont "Freon" fluorinated hydrocarbon refrigerants.

### Used by Renaire—America's largest food-plan organization

Tell your prospects in the food field about the experience of the Renaire Food Plan of Springfield, Pennsylvania. Bill Renaire became "America's first television butcher" to help promote the Renaire plan, but he states, "No amount of promotion could have made Renaire America's largest food-plan organization unless we were able to maintain the quality of our foods through the freezing operation. We have 50,000 very satisfied customers to prove that our system—which depends vitally on 'Freon'—does keep food quality high."

In Renaire's new 27,000-square-foot plant, raw products are quick-frozen at -35°F. in contact with direct-expansion plates through which "Freon" flows. There's a process room at -20° and a make-up room kept at 0° . . . in addition to Renaire's 10-truck fleet which uses 3/4-ton units charged with "Freon" to keep food at -10° during transit.

### Quarter-century record of "Freon" will impress these clients

Renaire's equipment and system is a joint product of work by the Brunner Company and the Ross Refrigeration

Company. The direct-contact plates through which "Freon" refrigerant flows are its outstanding feature. Food-field people appreciate the importance in a system of this type of "Freon" safe refrigerants. You'll want to tell them that "Freon" is nonflammable, nonexplosive, virtually nontoxic, odor-free and cannot contaminate foods.

Another important point is Du Pont's more than 24 years' experience manufacturing "Freon" refrigerants to strict quality standards. The result is a product of such uniform purity that it contributes to long, efficient service from all types and sizes of equipment. For further information on "Freon" refrigerants, write to E. I. du Pont de Nemours & Co. (Inc.), "Kinetic" Chemicals, 11500 Nemours Building, Division 16, Wilmington 98, Delaware.



# FREON

SAFE REFRIGERANTS

"Freon" is Du Pont's registered trade-mark for its fluorinated hydrocarbon refrigerants



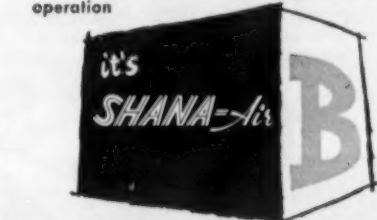
BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY

any way you look at it...



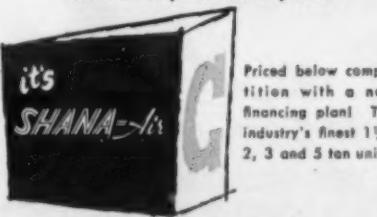
### COMPLETE HOME AIR CONDITIONING UNITS!

- Greater profits at minimum investment
- Popular appeal and tested sales plan
- Labor-saving installation and trouble-free operation



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individual or combination units for any home in any state



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Gentlemen:  
I am interested in knowing more about SHANA-AIR HOME AIR CONDITIONING.

☐ DEALER ☐ DISTRIBUTOR ☐ MFG. REP.  
Others please specify

Name \_\_\_\_\_  
Firm \_\_\_\_\_  
Address \_\_\_\_\_  
City \_\_\_\_\_ Zone \_\_\_\_\_ State \_\_\_\_\_



## Lau \$1,600,000 Expansion Plan Will Double Mfg. Area

DAYTON—A \$1,600,000 expansion program to result in construction of a new fabricating and office building has been authorized by the board of directors of The Lau Blower Co., according to Harold W. Faulkender, president.

The new two-story building will be added to the present Dayton plant. It will increase office space by 20,000 sq. ft. and factory area by 45,000 sq. ft. This will triple present office space and double manufacturing area.

Construction is expected to be completed in late 1955.

The additional factory space will be used for production of blowers. This will release much of present factory space for portable window fans and other fans.

## Inaugurate Prepaid Freight Policy on 'Recold' Blower Coils

LOS ANGELES—Refrigeration Engineering, Inc., has announced a full freight prepaid policy on all "Recold" ceiling blower coils.

Hy Jarvis, president of Refrigeration Engineering, said the new Recold price list on ceiling blower coils shows delivered prices to the nearest freight station in the U. S. A. The prepaid freight program does not apply to repair or replacement items.

## 'Dual Duct' Components Now Available; 80-Pg. Book Describes System

NEW YORK CITY—Component parts of the Buensod-Stacey "Dual Duct System" of air conditioning multi-spaced buildings are now available to engineers for system specifications and to contractors for installation.

This is announced in the book, "Dual Duct Air Conditioning and the Multi-Storied Building," published by Buensod-Stacey, Inc. here. The 80-page, illustrated book describes the system in detail.

Its Dual Duct System, the company explained, "supplies cool and warm air simultaneously to each room or separate area. Individual mixing units, under windows or above ceilings, blend the two air streams to maintain any desired temperature."

The company claims the method reduces annual maintenance costs, pointing out that all cooling and heating coils, fans, filters, motors, etc., are concentrated in the apparatus room. Only one serviceman is needed to take care of the apparatus room and the mixing units, it said.

One chapter describes 19 advantages of the firm's Dual Duct System. In this connection, the company noted: "All air is filtered and dehumidified; the refrigeration plant is not used during winter,

spring, and fall; artificial heating is kept to a minimum by using filtered return air. Neighboring rooms can have widely differing temperatures, all supplied from the same system."

Included in the book are chapters on the history of the company and biographical material on A. C. Buensod, president. It also contains a list of clients using the Dual Duct System.

## Refrigeration Economics Wholesale Business Sold To Carl Howenstine Group

CANTON, Ohio—F. M. Bennett announced recently that he and Carl Weaver have sold all stock in Refrigeration Economics Co., Inc. to Carl Howenstine & Associates, which will continue only the wholesale refrigeration supply end of the business.

Bennett said he and Weaver will operate the firm of Reco Products Co., which will continue the manufacture of Reco products at the original factory address, 1232 2nd St., N.E., Canton.

These products include continuous-tube down-draft fin coils, evaporative condensers, ceiling diffusers, continuous fin coils, ceiling and floor-type air conditioning units, automatic defrost units, wall units, shell condensers, water cooling equipment, and floor units.

## INSIDE DOPE

Learn to live and laugh—  
Thus delay your epitaph

By GEORGE F. TAUBENECK

(Concluded from Page 1, Col. 1) the Pennsylvania Railroad system. Who? James Farrell. And this man has a reputation for never being a fault-finder.

True success is not achieved overnight, nor is it achieved with a negative criticizing attitude. It takes days, months, years, plus human warmth to become a really BIG man.

America's top scientists, executives, discoverers, and heroes all were men to whom years of hard, persistent labor and humaneness were a PRELUDE.

Consider Dr. Harvey, who spent 18 years studying why blood circulation behaves as it does.

Take Noah Webster, whose dictionary wasn't completed until he had worked on it 36 years. And James Watt expended two decades inventing his leaky steam engine.

Robert E. Peary had a chief aim in life. That was to discover the North Pole, and claim it for America. Seven times he tried, and seven times failed. But on his eighth venture, when he was 53 years old, he discovered it.

All of them had one thing in common. They looked on the SUNNY Side of Life. They were optimists, rather than critics. They weren't discouraged, nor did they waste time blaming associates for their failures.

That's why we are moved to observe that:

FAULTFINDING is a bad habit. It is easily acquired, but not readily broken. We live in an imperfect world. Everything is flawed and defective. Yet, those who are optimistic and cheerful make out mighty well.

Businesses blunder; persons we work with fall short of our personal ideals. All people are erring creatures, and their deviations-from-the-norm annoy us. However, most of us pay too much attention to the faults of others, and to the defects of the world in which we live.

Those who are tolerant usually write Success Stories of their own, on the other hand. They are so busy striving to excel themselves that the shortcomings of others are overlooked.

Looking for faults is a sign of The Inferiority Complex. Those who persist in dampening the creative ardors of Happy People are, subconsciously, fearful of their own inadequacies. They keep few friends, and people go out of their way to give them a bad time.

But the man who stays cheerful, who encourages others as well as himself, often wins his goals without seeming to try.

End of sermon.

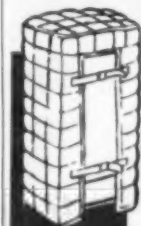
## Out of Our Mailbag

Minneapolis-Honeywell  
Regulator Co.  
P.O. Box 161  
Union, N. J.

Editor:

I like and always read your column "Inside Dope." Enclosed

## unmarred!



Air conditioning and refrigeration units are handled safely and efficiently—go to work unmarred—with ELKAY Moving Pads and Covers, Appliance Trucks, Dollies, Straps and Casters. Write for complete FREE CATALOG!

**ELKAY** PRODUCTS CO.  
323-27 W. 56 St., N. Y. 11, N. Y. — WAikins 9-1148

you will find a clipping from your column entitled, "Random Observation." I am also attaching a copy of a pamphlet written by Honeywell entitled, "How Much Is Heating Comfort Worth?" and I call your special attention to the fourth topic "Five Ways to Control the Temperature In a Home."

I am not sure that this will answer your question of "Just how automatic is automatic anyhow," but I hope it will help.

I had a lot of fun writing you and want to take this opportunity to say thanks for delaying my epitaph.

CARL W. STROMEYER

Copenhagen, Denmark

Editor:

The reading of your books has made me a great admirer of you. I do not think it possible that any other books on merchandising could contain so much value.

How thoroughly you know all ins and outs of managing and selling!

And then, Mr. Taubeneck, when I read the NEWS and look through the advertisements of big American manufacturers, I am delighted to see that they advocate the open display counter—as we do in Denmark.

The great majority of Danes feel that we are all in the same boat with the U. S. We look on you as our great brother.

H. C. ANDERSON

## Tag-Enders

Ever wonder why U. S. elections are staged in November?

Law governing those elections was passed by Congress in 1845. Explained its writer, Representative Alexander Duncan of Ohio:

"Harvesting is over then, and winter has not yet made the roads impassable."

Even today Maine votes in September for all offices (except Presidential electors) because winter comes earlier up there.

According to Detroit newspapermen, who were waiting out an all-night bargaining session between the CIO and an automotive firm, a negotiator burst out of the conference room and took several deep breaths.

"Gotta calm down," he muttered.

The reporters went on playing poker.

"Say, boys, mind if I join you?"

They dealt him in, and he stayed for an hour, with less than good luck.

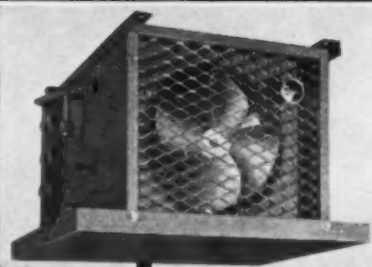
Refreshed, he cashed in his chips, arose, stretched, and smiled broadly.

Thereupon the wage-bargainer charged menacingly over to a wall mirror, practiced scowling until his phiz was formidable indeed, and...

Banged his way through the door to the conference room.

The boys could hear him roaring inside.

## NEW KRACK UNIT KOOLERS



**BUC**  
265 to 1400 BTU/HR.—1° T.D.  
Here is the long awaited answer to the need for a dependable low priced unit cooler for general application!

SEND TODAY for detailed bulletin!



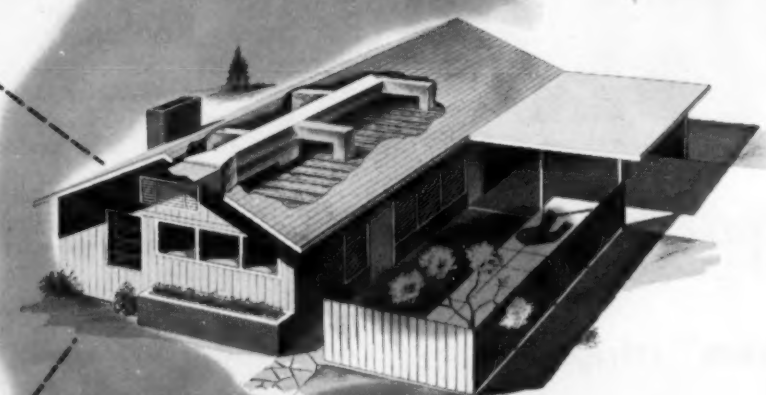
PIONEERS IN REFRIGERATION AND AIR CONDITIONING SINCE 1931.

801 W. Lake St., Chicago 7, Ill.

# Vornado®

## cuts cost of RESIDENTIAL air conditioning in 1/2

with full dealer margins



## NEW PACKAGED UNIT WITH PREFABRICATED DUCT WORK DESIGNED FOR LOW-COST INSTALLATION IN BOTH NEW CONSTRUCTION AND EXISTING HOMES...

This dramatically new Vornado Air Conditioner puts the luxurious comfort of entire-home air conditioning within the reach of every home owner. Its low price is the result of new technical achievements by Vornado engineers that have drastically reduced the high costs of air conditioning for the entire home.

Installation is simplified with a new type prefabricated, insulated, patented Vornaduct that brings cool air into every room of your home.

Vornado's new model is light, compact, and economical to operate. It can be installed in the attic, overhead, or in many cases adapted to other type installations.

See your local distributor today and learn the full facts about this new, sensational Vornado Packaged Air Conditioner that will open new sales potentials for you, with full profit margins.

**QUALIFIED DEALERS ARE BEING FRANCHISED NOW!**  
See Your Distributor Today

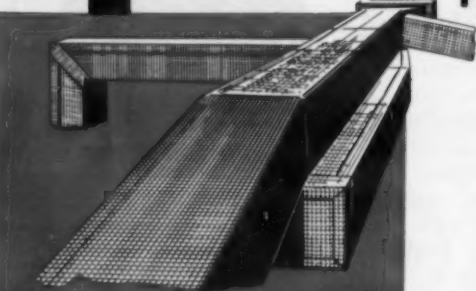
Products of **THE O. A. SUTTON CORPORATION**  
Wichita, Kansas  
Specialists in manufacturing comfort cooling appliances



MODEL B200A

## DESIGNED AND ENGINEERED FOR A VAST NEW MARKET

Represents the most advanced engineering principles in air conditioning. Small, compact, lightweight, and economical to operate. Twin system hermetically sealed, carries a five-year guarantee. Thermostatic controls available for completely automatic operation. Vornado Model B200A is designed and engineered for the average small home.



## NEW PREFABRICATED FIBER-GLASS DUCT WORK FURNISHED AS PART OF PACKAGE FOR ECONOMICAL INSTALLATION

A prefabricated, insulated, patented duct work developed by Vornado engineers which drastically reduces installation costs. Made of thick 1/2" fiberglass for insulation, with outer covering of aluminum foil. Comes in flat, scored sheets that are assembled by taping edges. Fire resistant, protected against moisture.





## 37 San Francisco Firms Adopt Code To Cover Most Phases of Service Operation

SAN FRANCISCO—Representatives of 37 local domestic and commercial appliance service firms have voluntarily adopted a set of major home appliance servicing standards developed in cooperation with the Better Business Bureau of San Francisco.

The standards cover price, identification of advertiser, method of payment, credit arrangements, warranties, home servicing, estimates on repairs, itemized charges, storage charges, and responsibility for work performed.

Vernon A. Libby, general manager of the BBB, said the appliance service industry itself asked the bureau for assistance in formulating standards of practice.

"We thereupon invited firms of record to attend a conference," he explained.

"Using as a 'work sheet' the television servicing code previously adopted for this area, which had been born of actual complaints in this bureau's files, the conference of service people devoted an entire evening going over point by point, analyzing, rewording, and finally agreeing upon the various points which constitute the standards of practice voluntarily adopted by the industry and administered by this bureau."

### Text of Standards

Text of the standards follows:

**PRICE:** The advertised price of a service call should include travel time and a stipulated specific period of time on the job. It should be in an amount which will eliminate the necessity of selling unnecessary parts or "taking the appliance or unit into the shop" when conditions do not warrant.

**ADVERTISER IDENTIFIED:** The name and address of service agency or retail store should be given in all advertising. (Answering service phone number or address is not considered sufficient.)

**METHOD OF PAYMENT:** There should be a complete understanding between servicing agency and customer as to method of payment prior to the dispatch of servicemen.

**CREDIT ARRANGEMENTS:** Customers have a right to assume that servicing agency will carry its own accounts unless other specific arrangements are made with customer prior to the rendering of service.

**WARRANTY:** Parts warranty should be given in accordance with the stipulations of individual manufacturers.

The servicing agency's labor warranty in connection with the warranty furnished by the dealer who sold the appliance will expire when the dealer's obligation ends.

The labor warranty on parts sold and installed by the servicing agency should cover a period of ninety (90) days.

**MANUFACTURERS' PARTS WARRANTY:** Servicing agency should replace

without any charge for parts any defective part still subject to manufacturer's warranty. Should a question exist as to replacement by manufacturer, the servicing agency may require from the customer a deposit equal to the retail price of such parts until they are replaced by the manufacturer, at which time refund of deposit should be made promptly, or may require a written stipulation that the customer will pay for parts replaced if not found subject to warranty.

**HOME SERVICING:** Whenever possible, repair of electrical defect should be accomplished in the home. However, if shop work is required, the facts should be stated clearly on the work order and the customer should give evidence of recognition of the written conditions in order to avoid possible misunderstanding. If shop repair necessitates the loan of a substitute appliance by the servicing agency, reasonable extra charges are allowable for this extra service.

**ESTIMATE:** Accurate estimates on repairs should be furnished when requested. A reasonable charge is allowable for the pickup, delivery, and labor involved in determining what needs to be done, even if repair is then not authorized.

**ITEMIZED CHARGES:** Customer should be furnished with an itemized statement showing the work performed and the parts replaced, except when a bid is made and accepted for a complete project.

**STORAGE CHARGES:** No storage charge should be made for appliance left after being repaired for less than thirty (30) days. After twenty (20) days, customer should be notified by registered mail of the rate of storage charges to be assessed beyond the first thirty (30) day period.

**RESPONSIBILITY:** In order that the servicing agency may demonstrate responsibility for work performed, adequate insurance should be carried to protect the person and property of the customer.

## Brownell Elects Williams As Vice President and General Sales Manager

NEW YORK CITY—B. S. Williams has been appointed vice president and general sales manager of Brownell Associates, Inc. here.

Brownell specializes in equipment for air conditioning, refrigeration and heating systems and is exclusive distributor in the northeastern United States of Krack heat transfer products manufactured by Refrigeration Appliances, Inc.

Williams will be in charge of sales in the New England states, New York state, and northern New Jersey.

Williams began his career in the field in the early 1930's as a regional manager for the York organization. In 1935, he was appointed vice president and general manager of the Airtemp Div., Chrysler Corp., and in 1938 was named general sales manager. During World War II, he was Director of Industrial Research for Airtemp and specialized in new applications and products. He assigned several patents to Chrysler, including its packaged store unit.

### MORE INFORMATION?

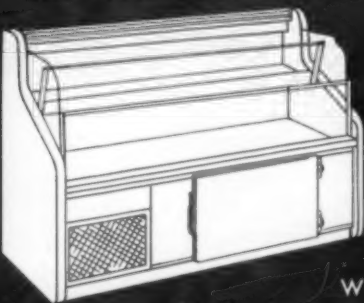
For "easy-to-get" product information . . .

use coupon in the "Information Center" form.

Use Key No. for fastest service.

## SIX FEET OF SALES POWER

Self-Contained Case for Dairy Products, Meats, Vegetables



Here's a case that has a big market in crowded stores. Just 6' long . . . 18 square feet of refrigerated shelves . . . 13 cubic feet of storage . . . all in 18 square feet of floor space! Goes through the standard door; plug-in installation; reliable refrigeration. You can sell one of these a week!

WRITE FOR COMPLETE DETAILS.

85th Anniversary

THE C. SCHMIDT COMPANY

1712 JOHN STREET CINCINNATI 14, OHIO



## Refrigeration Supply Co. Moves to New Location In Billings, Montana

BILLINGS, Mont. — Refrigeration Supply Co. held an open house party May 21 in its new and larger quarters at 425 N. 31st St. here.

The company said its continued expansion in the heating and air conditioning field made necessary the move to more spacious quarters.

The new location will permit better parking facilities and enable the wholesale concern to carry greater stocks of furnaces and air conditioners so as to provide better service to its Montana, Wyoming, and western Dakota customers, it was pointed out by N. L. Sulenes of the firm.

He added: "Refrigeration Supply Co. is proud of its record of staying open for business every day during the moving operation—although business as usual was more like business as 'unusual.'"

## UsAirco Names Outlet In South Georgia

MINNEAPOLIS — Shaw-Gunter Refrigeration & Air Conditioning Co., of Tifton, has been named a distributor for Tift County and south Georgia by United States Air Conditioning Corp. Shaw-Gunter is headed by M. Leroy Shaw and Dennis C. Gunter.

## Wolverine Names Whitlock To Philadelphia Post

NEW YORK CITY—C. P. Whitlock has been appointed sales representative in Philadelphia for Wolverine Tube, Div. of Calumet & Hecla, Inc., it was announced recently by G. H. Tobelman, eastern district sales manager.



C. Whitlock

Whitlock replaces John Van Wagoner. Formerly branch manager of Downs-Smith Brass & Copper Co. of Philadelphia, Whitlock will headquarter in Wolverine's Philadelphia office in the Liberty Trust building.

## General Controls Names Darragh To Field Post In New England District

GLENDALE, Calif.—William J. Darragh has been appointed manager of the General Controls Co. New England District office in Hartford, Conn., it was announced recently by J. F. Ray, vice president in charge of sales.

Darragh joined General Controls Newark branch in 1950 as a warehouseman and was promoted to sales engineer in 1952. A year later he was named manager of the company's Boston branch.

## H.B. Edwards Appointed Acme Sales Manager In Southern Region

JACKSON, Mich.—Acme Industries, Inc. has created the position of southern regional sales manager and has appointed Henry Banks Edwards to the post.

He will cover an eight-state area from Acme's district office in Houston, Texas—an office established within the past year, according to Carl W. Millson, Acme vice president in charge of field sales.

Edwards has a background of 20 years of experience with Carrier.

His work with that firm included applied engineering, research and sales, and distribution management in Los Angeles; Mobile, Ala.; Richmond, Va.; and Honolulu, Hawaii.

Edwards holds a B.S. degree in engineering from the University of Tennessee. He is a licensed engineer and a member of the American Society of Refrigerating Engineers.

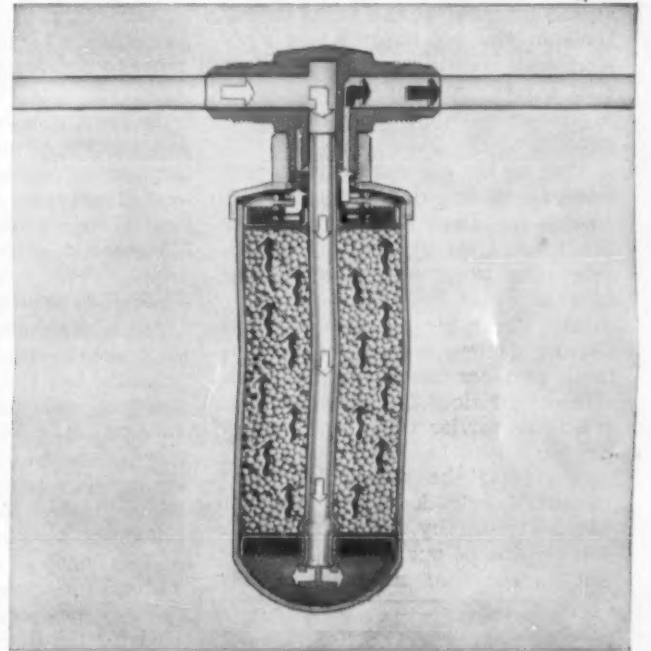
He was appointed to his new post immediately upon his recent release from a tour of duty in the U. S. Navy in which he holds the rank of lieutenant commander.



H. B. Edwards



The pink color in the Dry-Eye Connector window changes to blue when T-Flo Cartridge removes excessive moisture.



Note path of refrigerant through uniformly round pellets of Andrite in the T-Flo Dry-Eye Cartridge.

# Dry-Eye System tells at a glance if refrigerant is wet or dry

## Takes the guesswork out of refrigerant servicing . . . controls moisture, removes acid

No more guessing—now you can tell scientifically if the refrigerant is wet or dry. If the Dry-Eye Connector window shows blue, the equipment is in a safe operating condition. If the window shows pink, excessive moisture is present. To remove the moisture, simply change the T-Flo Dry-Eye Cartridge. That's all there is to it.

Andrite, the drying agent used in the T-Flo Dry-Eye Cartridge, is superior to all other popular desiccants in the deep drying range. This is the range which determines the quantity of desiccant to be

used. As for acid removal, Andrite will pick up 4.5% of its weight in acid when completely saturated with water. The extraordinary drying capacity of the T-Flo Dry-Eye Cartridge allows you, in many cases, to install smaller driers than the ones you are now using.

Test-try the Ansul Dry-Eye System on one of your "problem" units. See if it doesn't make servicing easier, more profitable. Contact your local Ansul wholesaler for a supply of Dry-Eye Systems. ANSUL CHEMICAL COMPANY, Dept. D-12, Refrigeration Div., Marinette, Wisc.



Once the Ansul Dry-Eye System is installed you can replace the T-Flo Cartridge without breaking the line.





## FRETZ SERVICE, Inc.

Name _____		Date _____		Service _____		Call # _____	
Address _____		Job # _____		Eqpt. _____		Sor. # _____	
Call Received	A. M. _____ P. M. _____	Call Assigned	A. M. _____ P. M. _____	1ST. YR.	2 YR.	3 YR.	4 YR.
From	By _____	To	P. M. _____	COMP.	T&M	T&M	STD
							CONTR.
							REF. DIS.

SERVICE calls received by Fretz Service, Inc. are noted on these specially designed call slips measuring 7 by 3½ in.



CALL slips waiting assignment are hung on board according to territory. Here P. W. Delaney, who heads up service, checks line-up of calls for pre-season inspection and start-up of air conditioners.



DISPATCHER William Foster keeps track of servicemen with this board. Pegs denote whether men have phoned in as required in morning, at noon, and after last call for day.

## How Large Wholesale Distributorship Controls Operation of Large Service Organization—2

This is the second and concluding instalment of a two-part article describing some unusual phases of the operations of a large wholesale distributorship in Philadelphia. The first instalment described the air conditioning school which has proved a most successful project for the firm.

This second instalment describes the operations of the service department, established as a separate organization, which also helps train and advise dealers, and operates as a compressor rebuilding station.

By C. Dale Mericle

The previously mentioned background of service experience possessed by most of the Fretz executives in the air conditioning division may well stem from the fact that a large servicing organization is associated with the parent company.

This is known as Fretz Service, Inc., as distinguished from S. S. Fretz, Jr., Inc. Service activities are headed up by P. W. Delaney, vice president and general manager of Fretz Service, Inc.

"All Fretz air conditioning and heating dealers are expected to do their own servicing, but our own service division is there to help train and advise them," points out Shaffer.

"In fact," he adds, "we won't permit a new dealer to start up his first unit by himself. We insist on one of our men being present to see that no mistakes are

made, and to get the dealer started out right."

According to Delaney, the company has a large number of maintenance service contracts on packaged air conditioning alone.

In addition to air conditioning service, the company also does service as required on the numerous other lines distributed, including Revco, Scotsman ice machines, Thermador, Kitchen-Aid, Monitor, Blackstone, Western Holly, and Todd industrial oil burners.

"Our maintenance contracts on air conditioning," Delaney explained, "are tied in with Airtemp's five-year warranty on the complete refrigerant circuit."

The company maintains a large stock of repair and replacement parts, "going back as far as 1937 on some Airtemp items, including a full line of parts for largest radial compressors," Delaney adds.

Fretz Service is also an authorized Airtemp compressor rebuilding station serving a territory as far west as Pittsburgh. It was the first such station set up by Airtemp.

"Compressor rebuilding is an excellent fill-in operation for shop and service personnel during normal slack seasons," Delaney indicates.

### Fixtures Hold Radial Compressor at Any Angle

The shop is fully equipped with lathes, drill presses, and other

machinery and equipment necessary to do a complete rebuilding job, but the company is understandably proud of one of its own developments—a special fixture designed to hold radial compressor bodies at any angle to simplify compressor repair work.

This fixture is constructed of heavy angle iron and iron strips to hold the compressor body at convenient working height. Com-

pressor body, as shown in the accompanying photograph, is attached to the fixture with four bolts through a mounting plate.

Mounting plate is welded to the end of a shaft which can be rotated slowly by means of a worm drive arrangement and hand crank.

Opposite side of the compressor body is supported by an arbor on the end of a threaded rod which is screwed into place by hand.

With this arrangement the compressor body can be readily turned upside down and set to any angle to suit the convenience of the worker.

Four such fixtures have been built in the Fretz shop and a fifth

is under construction, Delaney said. The fixtures are conveniently spaced around the shop under an overhead track. A chain hoist running on the track makes it easy to move the compressor from one repair operation to another.

### 'Controls' Are Important

As in any service organization, "controls" over dispatching, work of the servicemen, and record-keeping are an important phase of Fretz Service, Inc. operations.

Scheduling of service calls, Delaney explains, is handled by three dispatchers, one of whom

(Concluded on next page)

## NOW - The famous Honeywell

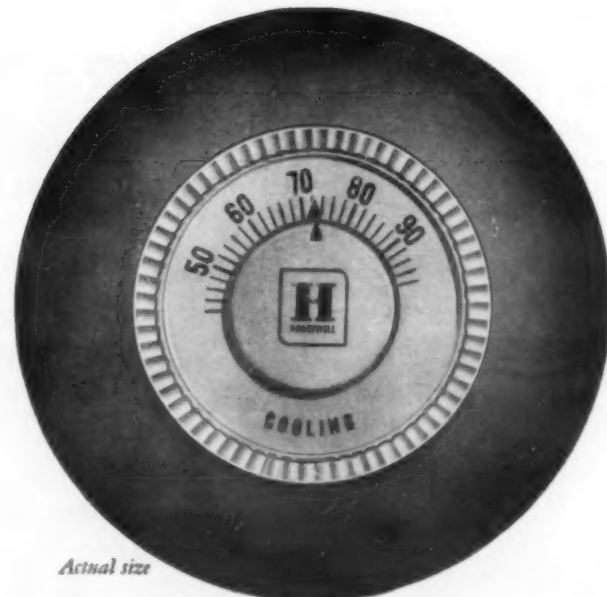


Actual size

The new T87A mounted on Sub-Base

All the advantages of the world's largest selling heating thermostat — plus cooling control

The new T87A is a highly sensitive, low voltage thermostat with heating and cooling anticipation (prevents temperature creep-up before the compressor goes on; also prevents over cooling at the end of the compressor run). Due to its low voltage design it offers extreme sensitivity, and reduced wiring costs. Dust-free mercury switch guarantees dependability. Features the famous Honeywell Round snap-off cover that can be painted to blend with any wall color or interior.



Actual size

The new T87C

For modernization to cooling when a separate heating thermostat is desired

The new T87C is a high-precision low voltage thermostat for cooling only. Features cooling anticipation which eliminates temperature lag on the beginning and end of the compressor cycle—maintaining precise cooling levels. Low voltage gives high sensitivity and reduced wiring costs. Has reliable, dust-free mercury switch and also features snap-off cover that can be painted to match interiors.

GENUINE JOE SAYS:

REPLACEMENT BRUSHES MUST BE THE SAME AS THE ORIGINALS... USE WAGNER!



WAGNER ELECTRIC CORPORATION  
6471 PLYMOUTH AVE., ST. LOUIS 14, MO.

## Harry Alter's New DEPENDABOOK

No. 162  
1955

GET IT AND SAVE!  
OVER 10,000 ITEMS  
ILLUSTRATED, DESCRIBED AND PRICED

Save Money On  
REFRIGERATION  
PARTS and Supplies

... Also Electric Motors  
& Parts, Air Conditioning  
PRICED RIGHT!

"Harry Alter gives you snappy service"

WHOLESALE  
ONLY

The HARRY ALTER CO. Inc.

1728 S. Michigan Ave., Chicago 16, Illinois  
134 Lafayette Street, New York 13, N. Y.  
122 Parkhouse Street, Dallas 7, Texas





COMPRESSOR repair work is greatly facilitated in Fretz shop by special fixtures which hold radial compressor body firmly yet readily allow it to be turned upside down or to any angle.

## Controlling Service Operation--

(Concluded from preceding page) handles air conditioning and heating service; the other two, appliances.

As phoned in, the service calls are noted on call slips printed in duplicate. The call slips are 7 in. wide by 3½ in. deep with two punched holes at the top.

The usual information is given on the call slips, such as name and address, date, type of equipment, nature of complaint, time call was received, to whom it is assigned, etc.

"Incidentally, we don't make

promises to have a serviceman call at a definite hour," Delaney explains. "We can and do promise to have a man there in the morning or afternoon, but we don't set an exact hour."

The call slips are placed on one of two large plywood boards (one for air conditioning, other for appliances) suspended from hooks according to district. Calls are picked from this board for dispatching to the servicemen.

Original copy of the call slip is given to the serviceman it's assigned to and the carbon copy is



## AIR CONDITIONING

retained until the call is completed.

To keep tab of the individual servicemen each dispatcher has a board on the wall directly beside him. There's space for each serviceman where his schedule of calls for the day is clipped.

Each serviceman is required to phone in to the dispatcher three times a day: in the morning, at noon, and after his last call for the day. To keep track of whether these calls are made, red pegs are placed by the dispatcher into one of three holes in the board beneath each serviceman's name.

When the serviceman phones the dispatcher in the morning, the peg is placed in the first hole. Upon receiving the noon call, the dispatcher moves the peg into the second. At the final call, of course, the peg is placed in the third hole.

### Keep Record of Each Call

Specially designed 8½ in. by 5½ in. service report forms are employed by servicemen to keep records of each call for billing purposes. These sheets, numbered serially, are made up in quadruplicate. The last copy, when filled

in by the serviceman after work is completed and signed by the customer, is given to the customer.

The remaining three copies are turned into the office by the serviceman. First copy is mailed to the customer with the invoice; second copy is placed in a special reference file; third carbon copy is ultimately filed with the office copy of the invoice.

## Alaskan City Constructing Air Conditioned Hospital

LA CROSSE, Wis. — Construction is rapidly being completed on a modern, air conditioned hospital for the Alaskan city of Cordova. The little town of some 3,000 population, situated near Anchorage, has urgently needed medical facilities for a long time.

Air distribution units, manufactured by The Trane Co., will provide the tempered air for the exacting temperature requirements which must be met in individual rooms. Also served will be wards, waiting rooms, and service areas.

Special Trane operating room air conditioning units will be installed in the operating section. Specifically designed for surgical room service, these units will provide heating or cooling, add or remove humidity, and will filter the air.

The complete system for heating, air conditioning, and ventilation was designed by DeWitt C. Griffin and Associates, Seattle. The equipment is being installed by the Hohn Mechanical Contractors and the architectural firm for the job is Young, Richardson, Carleton and Detlie, both also of Seattle.

## Carrier Will Condition U. S. Aircraft Carrier

SYRACUSE, N. Y.—Receipt of the air conditioning contract for the U. S. Navy's fourth *Forrestal* class aircraft carrier was announced recently by Carrier Corp.

The cooling system for the *U. S. S. Independence*, like those for her sister ships, will be the largest afloat, Carrier said. Six centrifugal refrigerating machines will be installed to handle all air conditioning refrigeration requirements.

Carrier supplied similar equipment for the Navy's three other carriers, the *U. S. S. Forrestal*, which was launched at Newport News, Va., Dec. 11, 1954, the *U. S. S. Saratoga*, and the *U. S. S. Ranger*. The *Independence* (CVA-62) will be the same size as her three sister ships, which are classed as the world's largest warships.

The total cooling capacity provided by the centrifugal machines is equivalent to the melting of 2,000,000 lbs. of ice during a 24-hour period.

## Lee Air Conditioners, Inc. Forms In Durham, N. C.

DURHAM, N. C.—Joe Lee, manager and owner of Lee Air Conditioners, Inc., has announced the formation of the new company from the organization formerly known as Stahl-Rider-Durham, Inc.

He became owner of the new company on March 1, 1955. He entered the air conditioning business in 1948 with the Stahl-Rider firm.

He reported the new company will specialize in both commercial and residential air conditioning. Lee Air Conditioners, Inc., which will operate with the same personnel previously employed by the old firm, is located at 1918 Perry St.

# Round for residential cooling, too!

*New T87 Thermostat and Sub-Base combinations bring new quality, new flexibility to residential cooling*

These new Honeywell Sub-Bases—featuring 8 different switch combinations—offer you a range of flexibility never before available in the air conditioning field. Allow you to give your customer the exact switch and thermostat combination he wants. Sub-Base serves as mounting plate—thermostat simply screws on. Eliminates all wiring to thermostat. Increases ease of installation. Pre-wired factory built control panels are available to accommodate all thermostat and sub-base combinations.



### New Honeywell Sub-Bases offer wide range of switching actions

For use with T-87A



Q405A—Heat-Off-Cool Fan On-Auto



Q405B—Heat-Cool Fan On-Auto



Q405C—Heat-Off-Cool (extra pole can be wired for continuous fan operation on cooling)



Q405D—Heat-Cool (extra pole can be wired for continuous fan operation on cooling)

For use with T-87C



Q405E—Cool-Auto-Off Fan On-Auto



Q405F—Heat-Off-Cool Fan On-Auto



Q405G—Heat-Off-Cool (extra pole can be wired for continuous fan operation on cooling)



Q405H—Cool-Auto-Off (extra pole can be wired for continuous fan operation on cooling)

For more complete information about the new Honeywell Round cooling thermostats, or any of the complete line of Honeywell Controls, call your local Honeywell office. Or write to Honeywell, Dept. AN-6-89, Minneapolis 8, Minnesota.

112 offices across the nation



MINNEAPOLIS  
**Honeywell**

Air Conditioning Controls

**first cost is  
the least cost  
when it's the last cost!**

**Microtron**

the permanent air filter with  
the **ELECTROSTATIC** media

**Distributor,  
Jobber and Dealer  
Franchises**

available in some areas. Here is a fine product with a splendid profit margin. Phone, wire or write for details **TODAY**.



**Microtron**

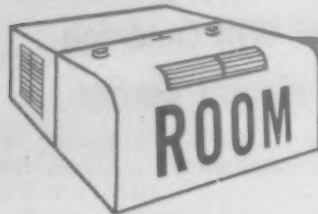
CORPORATION

Franklin 7-1039

CHARLOTTE, NORTH CAROLINA

P. O. Box 2092





## AIR CONDITIONERS

### Philco First Quarter Net Income at \$2.5 Million

PHILADELPHIA — Sales of Philco Corp. in the first quarter of 1955 totaled \$96,825,000 and net income was \$2,447,000, or 62 cents per common share after preferred dividends, it was announced by James H. Carmine, president.

In the corresponding period last year, sales were \$113,777,000 and net income was \$2,438,000, or 62 cents per common share.

Carmine said that "because of starting several new government projects, defense volume temporarily declined during the first quarter and initial production costs were incurred. Government production and shipments are now increasing and are above the first quarter level.

"Our new lines of refrigerators, freezers, ranges, and air conditioners are meeting with a very favorable dealer and customer acceptance.

### Hollander Distributes Vornado

ST. LOUIS — Hollander & Co. has been appointed distributor of the Vornado line in the St. Louis marketing area.

### Glen Alden Asks Stockholders To Authorize Stock Increase

WILKES-BARRE, Pa. — Glen Alden Corp. (formerly Glen Alden Coal Co.), which recently purchased Mathes Co., Fort Worth air conditioning equipment manufacturer, has called a special stockholders' meeting for July 20 to authorize an increase in the corporation's authorized shares from 1,849,393 to 2,500,000.

Francis O. Case, president, said the larger authorization would help Glen Alden open negotiations with "other profitable companies having growth potential, should such opportunities develop." And, he added, "I think they will."

Case termed Alden's acquisition of Mathes "a major step in the company's diversification program." A big share of the payment to Mathes' owners is expected to come from future Mathes earnings.

Due to the fact that for income tax purposes, Glen Alden can carry forward against future profits a 1952-53 loss of some \$5 million, it will be able to keep, over the next few years, a substantial part of Mathes earnings for itself, it was pointed out.

### Urge Installation of High Power Factor Equipment

## Washington Utility Raises Rates to Users of Room Units with Power Factor of Less Than 85%

WASHINGTON, D. C.—A slightly higher electric rate for customers using room air conditioners and other equipment with a power factor of less than 85% was put into effect early in May by the Potomac Electric Power Co. here.

Customers have a choice of either paying the higher charge or installing corrective equipment to bring their power factor up to the required minimum. The increase amounts to .2 cents per kwh. after the first 300 kwh. and up to 6,000 kwh.

"While the additional charge to low power factor customers is relatively small," the utility declared in a letter to air conditioning dealers, distributors, and manufacturers, "it will be of considerable advantage to your customers to install high power factor equipment."

### High Power Factor Equipment Aids Wiring Requirements

"Most manufacturers of air conditioning units have at least some models in their line which have a power factor of at least 90% and it is suggested that your prospects be urged to purchase these high power factor units as a means of curtailing their need for additional

wiring capacity as well as limiting the application of the power factor rider to their electric service rates," the utility added.

The utility explained that "the installation of thousands of room air conditioners on Pepco's lines in recent years and the probability of even larger quantities being installed in the future, presents a very serious problem both to us as a utility and to our customers."

### Cuts Generating Equipment Efficiency

"The increase in the number of amperes flowing when low power factor equipment is installed materially reduces the efficiency of the company's generating and distribution facilities and also results in serious problems of capacity of interior wiring in customers' premises."

"The capacity of the electric system required to supply a given piece of motor driven equipment is at a minimum if the motor operates at 100% power factor," the utility went on. "But if the power factor at which it operates is less than 100%, the capacity of the electric system to which it is connected must be increased."

"At 90% power factor, the capacity of the system would have to be increased only about 11%; but at 70% power factor, it would have to be increased by 43%."

"Pepco does not contemplate that all equipment will operate at 100% power factor, so its system is designed on the basis of a system load having approximately a 90% power factor."

### Additional Equipment Would Only Increase Rates

"An investment by the company of literally millions of additional dollars, which would result in much higher electric rates, might be required if some limitations were not placed on power factor of the customer's load."

Pointing out that the heavy air conditioning load in summer materially aggravates this problem, it explained further:

"Not only are the company's generating and distribution facilities called upon to provide this maximum load over a relatively short period during the year, but because of the high temperatures, distribution and transmission facilities are capable of carrying only about 80% as much load as could be carried by the same facilities during the winter. Also, because of high temperature of water available for the condensers, capacity of generators is reduced during the summer."

Because use of room air conditioners is governed by the weather, the utility said, they operate continuously for many hours and all at the same time. The result is that room air conditioners have the effect of almost doubling the residential customer's demand for electricity.

"We believe," the company said, "that motor driven equipment having a rating of more than 1 kilovolt ampere (other motor driven equipment as well as air conditioners) should operate at 90% power factor or better during full load test conditions."

"In this territory, where temperatures below test temperatures will be frequently experienced even in summer months, the operating power factor of air conditioning units will drop well below the power factor established under test conditions."

"It is because of these operating conditions that we believe that air conditioning units of ½ hp. and larger should be rated at 90% power factor under full load test conditions, in order to assure maintenance of an over-all power factor of 85% or better for our customers."

### Would Penalize Non-Air Conditioning Customers

Without the recently added special rate, the utility declared, "customers not using (air conditioning) equipment would be unjustly discriminated against through bearing an improper share of the costs of electric service because the company would be required to invest additional millions of dollars in corrective equipment."

The company said that it would test the power factor of new and existing customers, as well as customers adding low power factor equipment, or whose equipment or operations indicate the probability of low power factor.

Those customers where tests indicate an over-all power factor of less than 85% will be placed on the special power factor rate until such time as power factor corrective equipment satisfactory to the company has been installed by the customer.

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it had to be a  
custom-quality filter

so Amana specified  
**AMER-glas**



LOOK AHEAD TO BETTER QUALITY—WITH AAF! AAF engineers will work closely with your staff in designing filters of special size, and with custom features to give you better performance. Your product deserves the best . . . insure it with AAF-engineered AMER-glas FILTERS.

#### SEND FOR FREE AMER-glas TEST FILTER!

American Air Filter Co., Inc.  
109 Central Ave., Louisville 8, Ky.

Send us FREE test filter and information on AMER-glas filters for air conditioning units.

NAME \_\_\_\_\_  
COMPANY \_\_\_\_\_  
ADDRESS \_\_\_\_\_  
CITY \_\_\_\_\_ ZONE \_\_\_\_\_ STATE \_\_\_\_\_

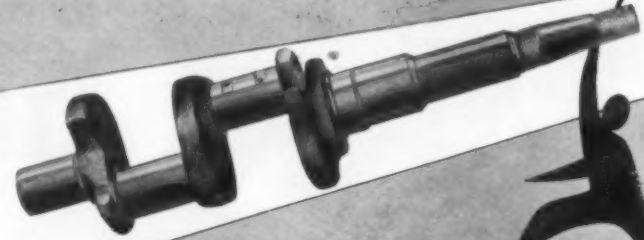


AMERICAN AIR FILTER CO., INC., Louisville 8, Kentucky

## SHAFTS by MODERN

SINCE 1924 . . .

Shafts by Modern now power compressors for the leading lines of commercial refrigeration and air conditioning units. For precision SHAFTS, in quantity, consult us. Send blueprints for quotation.



Modern Machine Works, Inc.  
Pioneers in Shaft Manufacture

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**Curtis**

Complete Line of  
REFRIGERATION and  
AIR CONDITIONING  
EQUIPMENT

CURTIS REFRIGERATING MACHINE DIVISION  
of Curtis Manufacturing Company  
1912 Kienlen Ave. St. Louis 20, Mo.  
Established 1854



## Residential Air Conditioning

Loveley Tells Engineers

### 'Fly Wheel Effect' Can Overcome Lack Of Capacity In Air-Cooled System

DETROIT—The loss in capacity of air-cooled air conditioning equipment as compared with water-cooled equipment is not as great as some people believe, J. D. Loveley, vice president in charge of engineering for the Airtemp Div., Chrysler Corp., declared here recently.

He told the Michigan Association of the Refrigeration Service Engineers Society that air-cooled equipment needed only 10% more running time to make up for the lost capacity at average temperatures.

"Although air-cooled condensers lose capacity during the day," he asserted, "there should be enough fly wheel effect to cool a home comfortably if there is sufficient equipment installed to maintain a 75° F. temperature at design conditions."

An advantage of air-cooled equipment, in addition to the elimination of water and tower cleaning costs, is that it can be used on occasionally warm days during spring and fall. A cooling tower, however, is usually drained after the end of the cooling season, and would not be available for use on these after-season hot days, he declared.

Loveley claimed eight advantages for waterless home air conditioning. These are:

1. No water consumption.
2. Reduced maintenance costs.
3. No seasonal water drainage.
4. Complete comfort control from a single thermostat location.
5. Lowest operating cost.
6. Lowest floor area requirements.
7. Installation flexibility.
8. Quietness of operation.

He pointed out that the industry has a big job to do to educate the public to living in air conditioned houses. They must be told, he said, how improper placement of furniture and furnishings can impede air circulation and cooling, why they should not fuss with the

thermostat, and that differences in mood and dress can affect their comfort without it being the air conditioning system's fault.

He cited as an example an office where men normally wore their suit coats while working, while the women wore light clothes. The men were calling for more cooling and the women for less. This problem was solved, he said, when the men were requested to work in their shirtsleeves.

### Carrier Establishes Bryant Headquarters In Indianapolis

INDIANAPOLIS—In connection with the establishment of national headquarters of Bryant Div. of Carrier Corp. in Indianapolis, the firm has acquired an industrial site for administration, sales, engineering, and research offices across from the Bryant manufacturing plant at 1100 W. 2nd St. here.

The announcement was made by Ronald N. Campbell, Bryant's vice president and general manager.

Coupled with the purchase of the additional property, formerly owned by Shield Press, Inc., Campbell made known expansion plans which will include substantial additions to the larger of two buildings now on the property.

The acquisition follows closely the announcement that Bryant is moving its home offices from Cleveland to this city. Acquisition of the Shield property will permit permanent establishment of headquarters close to the plant. Until the newly-acquired property is ready for occupancy, Bryant offices will be located at 48 Monument Circle.

As soon as possible Bryant plans to move divisional engineering, laboratories, model shop, and advertising activities into the existing main building. Following the completion of two wings, administration and sales will be transferred from the downtown offices in Monument Circle. It will be approximately a year before the latter move will be completed.

Bryant produces heating, unitary air conditioning, and water heating equipment. In addition to Indianapolis the division has plants in Tyler, Texas, and New Lexington, Ohio.

### Kaminsky Speaks to Engineers

LIMA, Ohio—Aaron R. Kaminsky, Bush and Heat-X representative, was guest speaker at the April meeting of the Lima, Ohio Chapter of RSES. His talk covered recent new product developments of Bush and Heat-X.

### Unarco Begins Testing In \$100,000 Laboratory

CHICAGO—Testing of heating and air conditioning equipment has begun in the Union Asbestos & Rubber Co.'s new \$100,000 research and development laboratory at 5110 W. 51st St. here.

One of the features of the new laboratory is a 10 by 13 ft. room, in which any climatic condition, ranging from humid sub-tropical heat to dry sub-zero arctic air can be maintained.

Engineers working on new products, Unarco explained, will utilize this room to check on products under development. The firm added:

"Our engineers will be able to 'torture test' newly designed air conditioning and heating equipment under far more rigorous conditions than would ever be found in the field.

"We can simulate the searing dry heat of the desert or the humid tropical heat found along the equator.

"On the other hand, we can bring temperatures down to the sub-zero level of an arctic winter."

Through the use of the new laboratory, Unarco equipment can be put through tests in days that normally would take years.

The laboratory will be under the general supervision of Chief Engineer George Sykes, assisted by Dr. Shan Shang and Alexander Goldsmith.

### Drayer-Hanson Books Most Sales In History

LOS ANGELES—Sales booked by Drayer-Hanson, Inc., in the first four months of 1955 were the highest in the history of the company for a similar period, it is reported by Ross Rathbun, sales manager.

Compared to the same period in 1954, the increase averages well over 30% for the manufacturer of air conditioning and refrigeration equipment.

### General Electric Names 2 Field Representatives

BLOOMFIELD, N. J.—Appointments of A. S. Garven and Robert C. Schnetke as field representatives for the Home Heating & Cooling Dept. were recently announced by the General Electric Air Conditioning Div.

Garven had previously been a sales representative for Canadian General Electric in Vancouver, B. C., Canada. In his new work, he will be located at Hartford, Conn. and cover Bridgeport; Springfield, Mass.; Poughkeepsie, N. Y.; and Providence, R. I.

Schnetke was wholesale sales manager for Harold E. Sweeney Corp., Philadelphia. In his new capacity with General Electric he will be located at the G-E Boston office and represent New England states.

### Home Heating, Cooling Sales Offset Drop In Coleman Defense Work

WICHITA, Kan.—Increased sales of civilian goods, principally home heating and air conditioning equipment, more than offset a decline in sales on military contracts in the first four months of 1955, it was reported by the Coleman Co., Inc.

Consolidated net sales for the period ending April 30 were \$12,930,070. Sales in the corresponding period last year were \$12,487,123.

Earnings in the first four months were \$257,379 or 59 cents a share of common stock compared with \$122,251 or 25 cents a share in the same period last year.

Following the annual stockholders meeting, the Coleman board of directors declared a regular second quarter dividend of 25 cents a share on the 400,000 shares of common stock payable June 3 to stock of record May 27.

A dividend of 53½ cents a share will be paid June 10 to preferred stock of record May 27.

Alwin B. Newton, Coleman chief design engineer, was elected to the board of directors.

### New Firm Opens

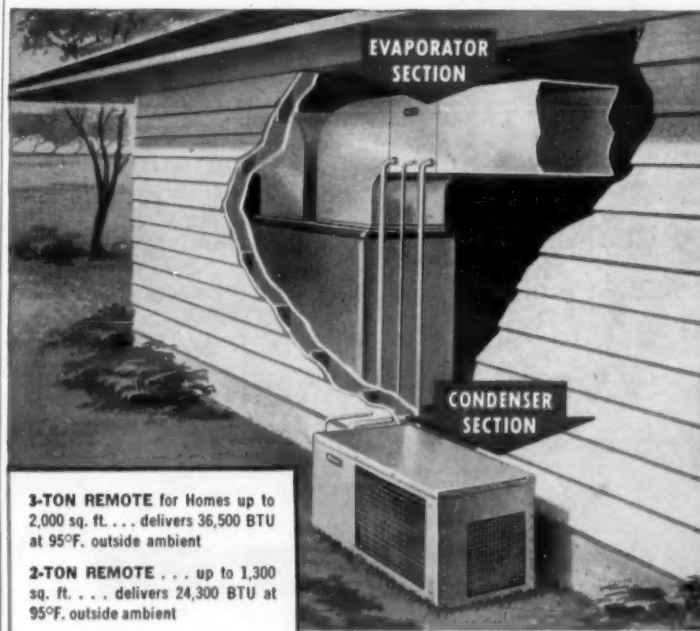
CHATTANOOGA, Tenn.—Tom Moore, Inc., devoted exclusively to air conditioning, announced its opening April 12, 1955. The firm is located at 1235 Market St.

## Cash in on these 2 TREMENDOUS TRENDS:

MODERNIZING  
OLDER HOMES

BIG PROJECT  
DEVELOPMENTS

...with **Marvair** AIR CONDITIONERS



### New REMOTE Waterless MARVAIR

... is your answer to the need for a quality-built air conditioner that meets every home requirement, every budget!

Conforms to all FHA and VA specifications, per Bulletin ME-12, including double drip pan, double condensate drain. And the oversize condenser and evaporator coils assure excellent performance, even in hottest climates.

You can recommend the Remote MARVAIR with complete confidence. It has the qualities that assure a 100% satisfactory job.

- EASY TO INSTALL! Weatherproofed condenser goes outdoors, in garage, basement or attic. Unit completely wired. Tubing easy to connect.
- WATERLESS! Air-cooled. No water tower, no water expense.
- QUALITY THROUGHOUT! Precision-built of finest materials, by an outstanding leader in heating and air conditioning.
- LOWEST-COST REMOTE SYSTEM ON THE MARKET!

## Marvair the Complete Air-Conditioning Line

### For Every Home, Store and Office Need!

The Remote Marvair is available with horizontal-flow evaporator, with or without blower; and vertical-flow "A" type evaporator for installation below or above any warm-air furnace.

Water-cooled MARVAIRS include vertical type with or without plenum, for single-room cooler or with ducts for homes, stores or suites of offices; horizontal type with ducts, for any updraft or horizontal forced-air furnace.

The only complete line not restricted to franchised dealers. For more volume, more profit, go MARVAIR all the way!



Write for Spec Sheets and Nearest Jobber, to:

**MARVAIR DIV., MUNCIE GEAR WORKS, INC.**  
MUNCIE, INDIANA

A Great Name in Heating and Air Conditioning



## E-2-SEE

LIQUID  
INDICATOR



NEW FLO INDICATOR FLAP  
SHOWS ALL FLOW CHANGES

Analyze flow, function of expansion valve, by means of E-2-SEE sensitive flap, instantly responsive to variations in flow. Positively leak-proof — hundreds of thousands in use.

Available at Wholesalers everywhere

**REMCO**  
INCORPORATED  
ZELIENOPLE, PA.

## ENGINEER, ROOM AIR CONDITIONERS

Manufacturer expanding in air conditioner field has a position of substantial responsibility open to an engineer who can handle all phases of design for a line of room air conditioners. At least five years' experience at a responsible level in air conditioner design is required. Reply giving qualifications and experience to Chief Engineer, Air Conditioning, Amana Refrigeration, Inc., Amana, Iowa.



## Residential Air Conditioning



W. I. Spitler, president of Air Accessories, Inc. of Fort Worth, shows Chrysler Airtemp executives news accounts of Wedgwood sub-division. Right to left are Glen S. Cobb, Airtemp regional manager; J. F. Knoff, Airtemp vice president; and Carl E. Buchholzer, Airtemp president.

### Airtemp Prepares for Big Demand from Southwest

DAYTON—Carl E. Buchholzer, president of Chrysler Airtemp Div. of Chrysler Corp. who recently returned from a trip through Texas, Louisiana, and Oklahoma, reports that production plans at Airtemp will be revised to meet added market demands of the southwest.

Both Buchholzer and J. F. Knoff, Airtemp vice president, relate stories of unprecedented air conditioning growth in every section they visited.

In Fort Worth, Texas, for instance, Buchholzer says his party visited Wedgwood Subdivision with W. I. Spitler, local Chrysler Airtemp distributor for Fort Worth and west Texas.

"Spitler and E. L. Baker, president of the Wedgwood Land Co., showed us plans for the development of 4,000 homes that will use Chrysler Airtemp equipment, with a large percentage to feature Chrysler Airtemp's new air-cooled air conditioning," Buchholzer said.

He added: "Even though construction on the subdivision has just begun, home buyers have forced the percentage of homes to feature air-cooled air conditioning to be increased again and again."

At Chrysler Airtemp, the first move on the agenda will be to re-evaluate air-cooled air conditioning production schedules, Buchholzer said.

## Installing Vornado Residential Conditioner In Attic

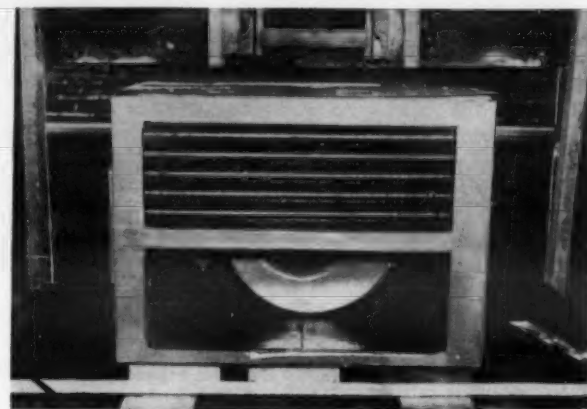


WORKMEN install louver on the outside of the house for attic installation of new Vornado central type air conditioner for low-cost homes. The unit can also be installed in crawl space, utility room, or garage, according to the company.

O. A. Sutton Corp. is now in production on a complete home air conditioning unit of 2-hp. capacity, announced earlier this year, which can be installed in an attic, crawl space, garage, or utility room. Compressors, coils, and blowers are all contained in the one unit.

A new type insulated prefabricated ductwork that requires no sheet metal work is used.

The company recently prepared a series of photographs which show how this air conditioning system would be installed in an attic space.



RESIDENTIAL air conditioner stands in attic ready for installation of prefabricated ductwork. The 2-hp. unit is said to deliver 22,000 B.t.u. per hour.

## HENRY ASME relief valves

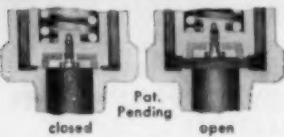
*for Extra Capacity  
Extra Safety*



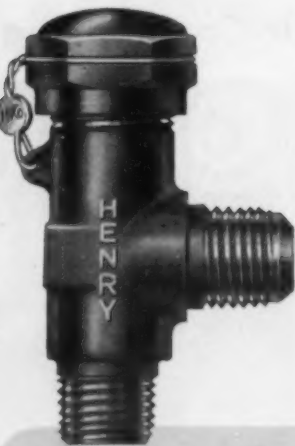
Type 523 Straight-Through Relief Valves

FOR FREON  
AND SIMILAR  
REFRIGERANTS

This relief valve has the Henry "Controlled Cushion" cup seat disc construction which prevents deformation of seating ring and assures consistent operation. This design provides positive relief at predetermined set pressures. Brass construction. Sizes (inlet x outlet) 1/2" M.P.T. x 3/8" Flare; 1/2" F.P.T. x 1/2" F.P.T.; 3/4" F.P.T. x 3/4" F.P.T.; and 1" F.P.T. x 1" F.P.T.



"Controlled cushion" cup seat disc construction



Type 52 Angle Relief Valve

This forged brass valve is available in sizes (inlet x outlet) 1/2" M.P.T. x 3/8" Flare and 3/4" O.D.S. x 3/4" O.D.S.

UV ASME  
NB National Board Certified

All Henry Relief Valves in the sizes and types listed below are constructed in accordance with the standards of the ASME. In addition these valves are stamped NB to indicate National Board Certification as to capacities.

FOR AMMONIA

Angle Relief Valve

Has soft metal alloy seat and push rod for emergency reseating. Stainless steel trim. Sizes (inlet x outlet) 1/2" F.P.T. x 3/4" F.P.T.; 3/4" F.P.T. x 1" F.P.T.; and 1" F.P.T. x 1 1/4" F.P.T.

All the above valves can be furnished at any desired pressure setting in the range of 50-350 P.S.I.

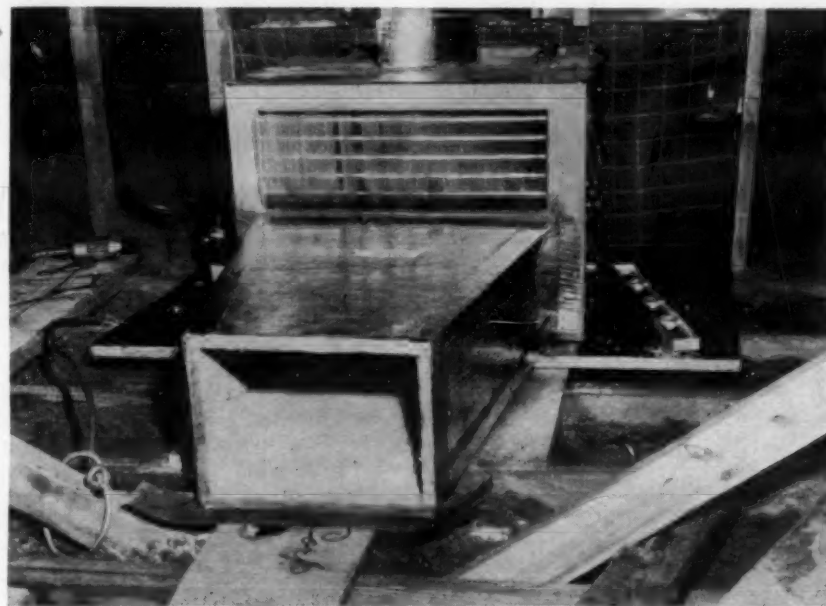
Write us for data sheet #AE-1303 showing new increased capacity ratings of these Henry relief valves

See your Henry wholesaler for these certified relief valves.

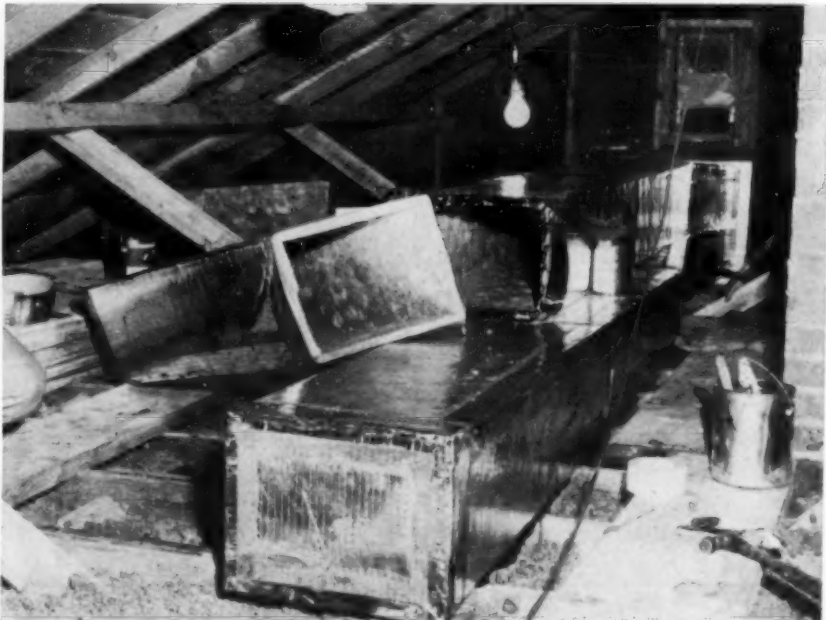
HENRY VALVE CO.

Melrose Park, Ill. (Chicago Suburb)  
Cable: HEVALCO, MELROSE PARK, ILLINOIS

Specialized Manufacturers of the Complete Line of Relief Valves  
for Refrigeration and Air Conditioning



FIRST SECTION of return air duct has been attached in this view. No sheet metal work is required for the ductwork which is already insulated. Special adhesive tape is used in making joints.



RETURN AIR DUCT installation has been completed in this picture. In this instance it opens into center hallway for return air supply. Cold air duct is being assembled on top of the return duct. Inside measurements of cold air duct are 10 in. by 14 in.

MORE COILS

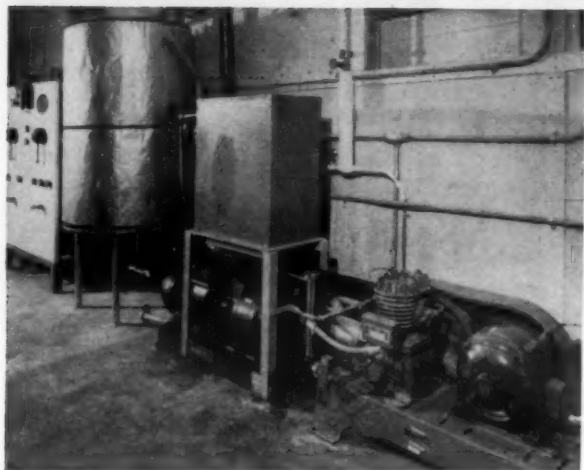
ARE MADE BY

KRAMER

THAN BY ANY OTHER  
COIL MANUFACTURER



## INDUSTRIAL applications



HEAT-X water cooler chills water for use in weather testing chamber at Johns-Manville Research Center. To maintain required deionization of water, both the storage tank and the circuit of the Heat-X cooler are of stainless steel construction.

### Johns-Manville Roofing, Siding Undergo Intensive Testing In Weather Chambers

BREWSTER, N. Y.—Heat-X, Inc. here has revealed an interesting use of its liquid coolers in the production of better building materials.

At the Johns-Manville Research Center, Manville, N. J., roofing and siding materials undergo intensive testing in weather chambers.

Materials are placed in the test chambers and exposed to an artificial weather simulation until failure occurs, it was explained.

"The 21-hour weathering cycle simulates sunshine, rain, humidity, and thermal shock by controlled usage of radiation from a carbon arc (ultra-violet exposure) and sprays of refrigerated deionized water," Heat-X said.

"To avoid metallic pickup, the deionized water used is chilled in a Heat-X liquid cooler with a stainless steel circuit and stored in a stainless steel tank. A 2-hp. condensing unit completes the system.

"Other chambers which only simulate humidity conditions utilized by Johns-Manville for testing insulations and certain other specialized building materials. These constant humidity rooms are supplied with chilled water from Heat-X liquid coolers.

"Desired conditions of 70° F. and 100% relative humidity are obtained by controlling temperature of the water furnished to the sprays within the rooms."

### Carrier Gets Contract for Air Conditioning Equipment for Dallas Memorial Auditorium

SYRACUSE, N. Y.—The contract for supplying two large centrifugal refrigerating machines for air conditioning the \$7,000,000 Dallas Memorial Auditorium has been awarded to Carrier Corp., it was announced recently by Charles V. Fenn, vice president, Machinery and Systems Div.

The modern exposition and civic center consists of two major sections. Most striking is a three-story domed arena with a seating capacity of 10,000. This is attached by a glassed-in concourse to a rectangular structure which includes a 1,750-seat little theater and 10 meeting rooms of various size.

Designed by George L. Dahl, Dallas architect, the new exhibition hall and meeting center located on a 26-acre site just south of the Dallas business district, conveniently located to all modes of transportation, is expected to be ready by the middle of 1956.

The two centrifugal machines will produce 1,550 tons of cooling capacity daily.

The big auditorium is being built to attract national conventions and increased revenue to Dallas. When placed in operation it will mark the completion of a plan originated

nearly 30 years ago by Dallas governing officials, Mayor R. L. Thornton stated.

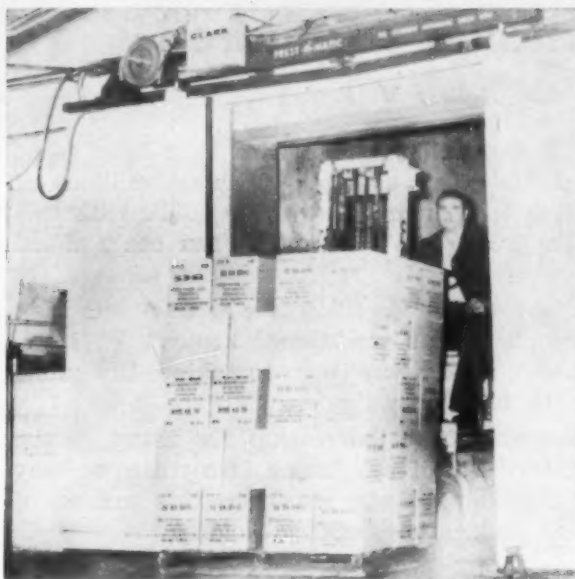
Fenn noted two other major U. S. cities which have recently purchased Carrier centrifugals for new and existing convention halls.

The New York City Triborough Authority's new \$30 million Coliseum and 20-story tower office building will be cooled by four Carrier machines. Primarily an exhibition hall with space for four separate shows to be held at one time—designed to replace the Grand Central Palace—it can provide seating for 10,000 persons.

Three centrifugals were installed in the existing Cleveland Public Auditorium after Mayor Burke returned from attending the Chicago national political convention in the Carrier air conditioned International Amphitheater. The purpose of the Cleveland cooling job was to attract a greater number of conventions and increase the revenue of the big hall.

General contractor for the building is R. P. Farnsworth & Co. Installation of the two centrifugals in Memorial Auditorium will be done through mechanical contractor C. Wallace Plumbing Co.

### Clark Offers Electrically Operated Cold Storage Door



ELECTRICALLY operated automatic refrigerator door recently introduced by Clark Door Co. opens and closes in a little as three seconds in the case of narrow openings.

NEWARK, N. J.—A new electrically operated automatic refrigerator door, designed for all types of cold storage, has been announced by the Clark Door Co. here.

This latest addition to the company's line of "Prest-O-Matic" industrial door units is suited for frozen food lockers and refrigerated warehousing compartments, the company said. Fiberglass, or other desired type of insulation of recommended thickness is used in the door sections. Temperature interchange is further minimized by special rubber sealing gaskets that

have been designed to provide tight closure.

Doors open or close in three or four seconds in normal size openings, averaging less than 10 seconds for the passage of lift trucks. Units can be wired for 110, 220, 440 current, either single or three-phase.

Doors are available in several types: sliding to each side from center of opening, sliding to one side only, or folding out from the center. Because door tracks are inclined inwardly and downwardly, top of door forms a wedge seal against header and bottom de-

scends to floor, rubber gaskets preventing leakage.

Leading edges of all doors are equipped with Clark's standard safety edge, which automatically reopens doors upon striking an obstruction during closing cycle.

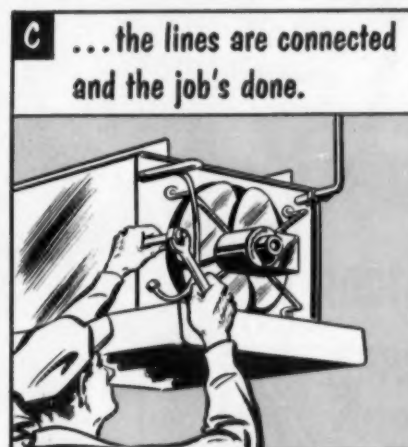
Although all standard types of control are available, the manufacturer usually recommends approach pull cord or pushbuttons which do not require the truck operator to leave his vehicle or even stop to actuate the doors.

Prest-O-Matic freezer doors are manufactured as complete packaged units, including motor operator, frame, insulated door sections, all hardware, and controls.

These units can be installed in a few hours by an average maintenance crew. Complete instructions are supplied with each unit. No special jamb construction is required as the self-supporting frame is fastened to the wall immediately adjacent to the opening.

### R. E. Thompson Celebrates 20th Year With Open House

ST. LOUIS—The R. E. Thompson Co., refrigeration and air conditioning parts and supplies wholesaler here, celebrated its 20th anniversary on June 4 with a three-day open house extending over June 3, 4, and 5. W. F. Steger has announced.



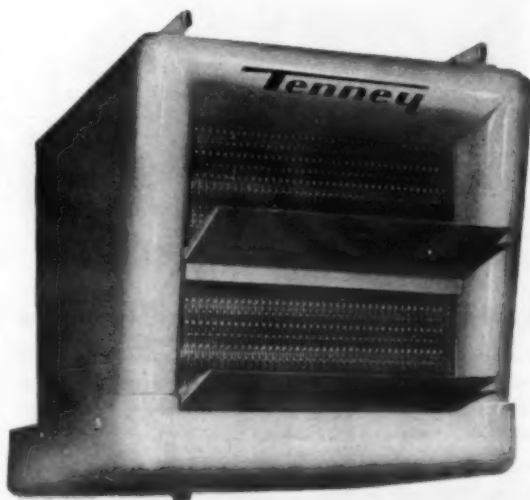
Easy-to-install and easy-to-service

are the key words to describe the new Tenney Angle-Air unit coolers... destined to become *your* favorite coolers for *every* refrigeration job.

This exclusive, ultra-modern design by Tenney is available in a selection of capacities from 2,600 to 54,000 B.T.U.; it has an integral heat exchanger with sensitive aluminum Facetized\* fins mechanically bonded on scale-free electro-tin-plated copper tube. A special provision is made for easy expansion valve bulb location... adjustable louvers... vibration mounted motor. Units are "Engineered" for dependable operation.

For full technical data on Angle-Air unit coolers, write department CR-6 for Bulletin 109-55 today!

\*Patented

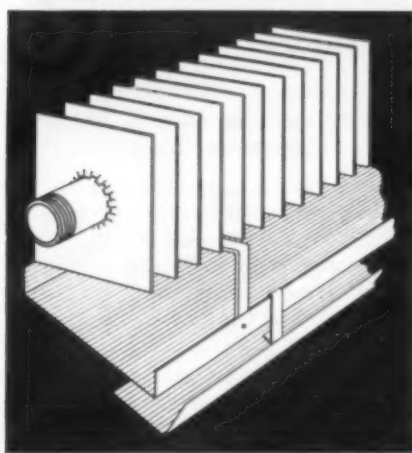


**Tenney** ENGINEERING, INC.

1090 SPRINGFIELD ROAD, UNION, N. J.

Plants: Union, N. J. and Baltimore, Md.

ENGINEERS AND MANUFACTURERS OF REFRIGERATION AND ENVIRONMENTAL EQUIPMENT



### FRICK Square-Finned Pipe

Is ideal for cold storages, freezers, food processing and meat packing plants, etc. Manufactured from 2" dia. F.W. steel pipe and 7" square 14-gauge fins, Frick finned pipe gives maximum heat transfer per dollar invested.

Various fin spacings and pipe lengths are available—all hot-dip galvanized. Each fin is bonded to the pipe under tons of hydraulic pressure.

See your nearest Frick Branch or Distributor for complete details, or write for Bul. 158.

**FRICK Co.** WAYNESBORO, PENNA. U.S.A.





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F. M. COCKRELL, Founder

### The Conscience of the Industry\*

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## The Case of the Shoemaker's Children

(By Robert M. Price)

In the past few years, millions of dollars have been spent in advertising the benefits of air conditioned living; millions of words have been written to acquaint the buying public with this boon to mankind. It's great. It's wonderful. You can't afford to be without it.

Now—let's back up a minute. Is the public actually knocking down doors to get completely air conditioned homes? Well, no. Progress, yes—but there's a long way to go to achieve the public acceptance necessary to big volume sales.

The next question may be embarrassing for many in the air conditioning industry. But if our hunch is correct, we may be on the track of something pretty basic in this matter of "public acceptance" of residential air conditioning.

### Here is the Question:

Of the many thousands involved in making, distributing, advertising, selling residential air conditioning, how many now have year-round air conditioning in their own homes?

If not, why not?

**Are we an industry of believers?** Or is air conditioning for "the other guy?" If so, can we be honestly convincing in selling or in advertising?

Is the "medicine" we package good enough to take ourselves?

Again, at the risk of embarrassing a good many people who wax evangelistic on residential air conditioning, we suggest an unofficial poll among manufacturing personnel, among distributors, dealers, and contractors to find out how many now have or plan to install year-round residential air conditioning in their own homes!

## They'll Do It Every Time . . . . Jimmy Hatlo



Increasing the acceptance and use of air conditioning at the "grass roots," in the air conditioning industry itself, may well be an important step in advancing general public acceptance and use.

The more enthusiastic users we have in the industry, the more convincing will become the sales story to the public.

Let's put some "shoes" on the shoemaker's children!

## More Mental Food For Salesmen

As a salesman you are faced with the problem of asking people to change their habits.

**If you want to help people change** their ways to their benefit, and yours:

- Describe their situation as it now exists.
- Make the present situation seem so bad that a change is obviously necessary.

Or, if you are trying to head off a competitor:

- Describe the present situation in glowing terms.
- Make it seem like a most satisfactory situation.
- Throw a fright into your audience about what will happen if a change is made. (The "view with alarm" charge of the political orator.)
- Stress the fact that this change is likely to be made unless they do something about it.

**The following tests should be applied** to any solution you suggest:

- Is it theoretically sound?
- Has it worked practically elsewhere?
- Is it supported by men in a position to know the situation?
- Are there any vital objections to it?

Suppose you were talking to a group of workers on the desirability of an incentive payment plan. First, you would convince them that it "figures out," that it "makes sense"—that it will help them earn more money per week than they are getting now.

**Next, you would give them examples** of how the plan has worked elsewhere.

Thirdly, you could quote testimony of both executives and workers in plants where the experiment had been tried. Fourth, you'd bring up any objections and show that they are not valid.

Last but not least, you'd inject sincerity and enthusiasm into your talk. Your hearers never will get much worked up if you're not hearty about it yourself.



General Appliance & Television Co.  
Dyersburg, Tenn.

Editor:

We have found your March 21, 1955 issue of AIR CONDITIONING & REFRIGERATION NEWS most helpful, in selling room air conditioners, and I would be most grateful if you would send me two (2) more copies of that issue as we have almost worn the first copy out.

BILLY S. YATES,  
Manager

Iowa Southern Utilities Co.  
Centerville, Iowa

Editor:

We request permission to mimeograph your editorial "Creative Salesmanship In Essence" appearing in your publication of March 14, which hits the nail on the head and is very timely.

We wish to send it to our salesmen and district managers.

GEORGE T. PERRINE

## Controlled Comfort . . . . B.B.\*

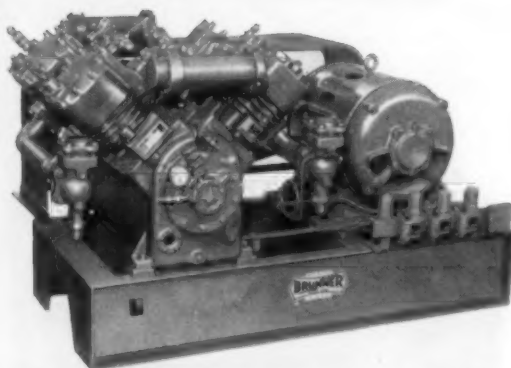
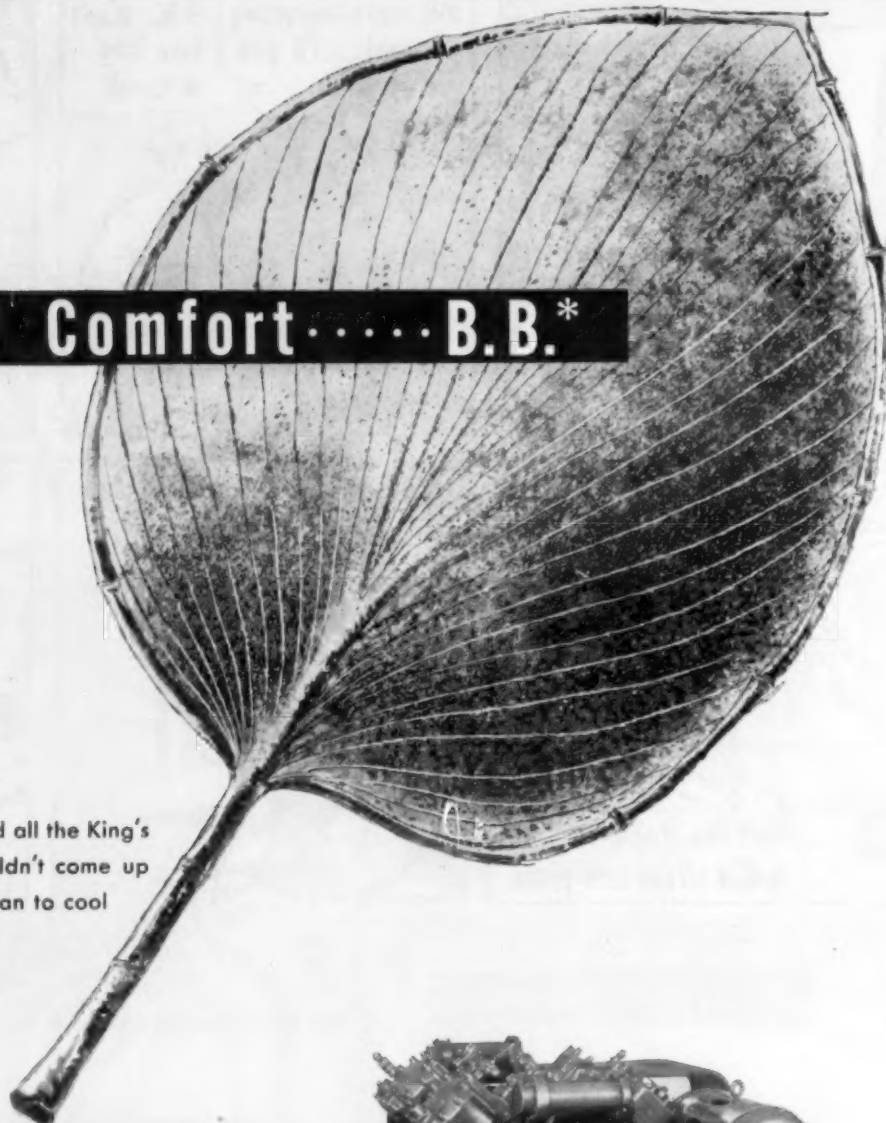
### \*BEFORE BRUNNER

In days of old, all the King's horses and all the King's men . . . plus the royal fortune . . . couldn't come up with anything better than a simple fan to cool His Majesty's brow.

It took horsepower of another kind . . . electricity plus engineering and design knowhow . . . to create the modern version of "controlled comfort" produced by Brunner.

In air conditioning and refrigeration, Brunner equipment is unequalled for dependability and long life. Brunner design engineers "cut the cloth to fit the coat" . . . they design the product to meet specific performance standards.

That's why it's always wise to "sell Brunner" . . . because Brunner design engineering means better performance and lasting satisfaction for your customers.



### BRUNNER REFRIGERATION CONDENSING UNITS

for remote air conditioning installation in commercial and industrial applications, are supplied in sizes up to 75 H.P. with capacity control. Brunner Compressor Units for use with evaporative condensers also available up to 75 H.P.

The Brunner Compressor does more work with less motion. It's huskier than most ordinary compressors . . . larger pistons . . . longer stroke . . . bigger crank case . . . deep-finned heads. These construction features result in a quieter, more efficient compressor that gives extra years of service . . . with less wear on working parts, less maintenance, lower operating costs.

See your Brunner Representative for full information, or write to:

BRUNNER MANUFACTURING CO., Dept. A-615, UTICA, N.Y.  
The Brunner Co., Gainesville, Ga.

In Canada: Brunner Corp. (Canada) Limited, Toronto, Ontario



BRUNNER EXTRAS

Compressor Experience  
Product Research  
Design Engineering  
Wide Product Range  
Proven Quality  
Complete Dependability  
Easy Servicing  
Warranted Performance  
Nearby Distributor Service  
Profit Opportunity  
Advertising Support  
Sales Promotion Help



## Service & Supplies

### Philco Offering Portable Appliance Tester

PHILADELPHIA—A new portable appliance tester, model 5100, has been introduced by the Accessory Div. of Philco Corp.

The new tester is designed for multi-purpose servicing of refrigerators, freezers, air conditioners, ranges, radio sets, and television receivers as well as checking other household appliances and many types of industrial equipment.

In one unit, the model 5100 appliance tester provides an accurate measurement of power, voltage, current, temperature, and resistance, permitting the user to quickly localize electrical or temperature difficulties within the appliance.

Power, voltage, and current are indicated on a reliable electro-

dynamometer type instrument. No d.c. meter with meter rectifier is employed. A precision engineered 4-in. micro-ammeter measures temperature and resistance.

Through a unique temperature calibration circuit increased accuracy is gained by permitting a calibration check against the thermometer supplied with the appliance tester. In addition, the temperature meter may also be used as an ohmmeter.

Eight scales are provided to cover all of the functions performed by this instrument. Calibrations are clear. The Philco appliance tester weighs 7½ lbs. It can be purchased locally through Philco distributors.

### Condenser Tube Cleaner Is Electrically Driven

LONG ISLAND CITY, N. Y.—A new electrically driven cleaner for air conditioning condenser tubes ¾-in. to 1½-in. o.d. has been announced by Thomas C. Wilson, Inc.

Called the "AB Tube Cleaner," it is designed for simplicity of operation in the rapid removal of algae, slime, and mud deposits. Its use results in the immediate reduction of condenser head pressure, the company claims.

Equipped with a carrying handle and built-in base, the AB cleaner is lightweight and portable. It is powered by a ¼-hp. 3,450 r.p.m. motor available in 110-220 volts a.c., single phase only.

Several types and lengths of flexible shafts and metallic casings are available for various tube sizes. The assembly is attached to the motor by means of a grooved spline connection.

### Bush-Heat-X Representative Conducts Educational Sessions

CHICAGO—Charles G. Zakoian of the Bush-Heat-X Chicago area sales engineering staff recently conducted five educational sessions in the midwest.

Arranged in cooperation with Gustave A. Larson Co., the meetings were held in Oshkosh, Green

Bay, Wausau, and Madison, Wis., and Rockford, Ill. A total of 141 refrigeration servicemen, contractors, and engineers attended the sessions, which covered installation, operation, and maintenance of several new Bush and Heat-X products.

### Hans Peterson Joins Kramer Sales Staff In North Jersey Area

TRENTON, N. J.—S. Charles Segal, general sales manager of the Kramer Trenton Co. here, has announced that Hans P. Peterson, former chief engineer of the Bush Mfg. Co., has joined the sales staff of Kramer. He will cover the firm's North Jersey territory.



**H. P. Peterson** Peterson is a member of the American Society of Refrigerating Engineers and a registered professional engineer, holding patents on aircraft intercoolers and defrosting systems.

From 1938 until 1947 he served with Bush as chief engineer. In 1948 he joined the Cecil Boling Co. as a representative for the Philadelphia territory, and in 1952 he resumed his duties as chief engineer for Bush.

During the war Peterson developed supercharger intercoolers for Navy aircraft and designed cooling units for military food storage purposes. After the war he directed the design of unit coolers, heavy duty units, evaporative condensers, packaged air conditioners, and refrigeration units.

### A-P Controls Appoints Reynolds to Sales Staff

MILWAUKEE—Vince Reynolds has been appointed sales representative in the A-P Controls Corp. Dallas office to work with Bill Cody in contacting the refrigeration and heating trade in the southwest territory, the company announced recently.



**V. Reynolds** The company explained that expanding gas heating, air conditioning, and refrigeration markets in the southwest developed a need for more A-P representation there. The territory includes Texas, Oklahoma, Louisiana, and Arizona.

A graduate of the Milwaukee School of Engineering, Reynolds has been in the refrigeration sales department in Milwaukee for approximately three years. He is a member of the Refrigeration Service Engineers Society and other organizations.

### M-H Names John M. Wilson

MINNEAPOLIS—John M. Wilson has been named chief engineer of the development and design division of the engineering department of Minneapolis-Honeywell's Brown Instruments Div.

Wilson was formerly chief electrical engineer for the parent firm.

## SLANTS on Service

### How To Fix Air-Logged Drain Line of Ice Maker

If the storage bin on a Frigid-aire ice maker overflows with water even though the drain is open, the drain is air logged, says Albert J. Dalpiaz of Dennison, Ohio.

He suggests this procedure to correct the condition:

"Drill a hole in the top side of the drain line just outside the cabinet and solder a length of ¼-in. tubing into the drain line. Bring this tubing up to the rear of the cabinet above the drain level and put a gooseneck bend at the end. With the tubing pointing down there is no chance to get any dirt in this air line and thus plug it."

### How Leaking Water Valve Can Affect Oil Separator

If the compressor on a water-cooled job equipped with an oil separator continuously runs short of oil, check the head pressure, advises Albert J. Dalpiaz of Dennison, Ohio.

Low head pressure would allow the oil in the separator to leave with the refrigerant, he says.

A leaking water valve would result in low head pressure. The leaking valve should be repaired or replaced.

Here is your gauge...

...for permanent installation on FREON-12 and FREON-22 systems...

Today's gauge for today's job on those Freon systems. Highly accurate and built down to the last detail to stay accurate.

The corresponding temperature scales are in color. Note the wide ranges of sizes and readings in F-12 and F-22 types.

Here is the gauge for permanent installation on refrigeration systems... with the Marsh "Recalibrator" to keep it permanently accurate. Write for facts or See Your Jobber

MARSH INSTRUMENT CO. Sales Affiliate of J. P. Marsh Corporation  
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**MARSH** Refrigeration Instruments

GAUGES • WATER REGULATING VALVES • SOLENOID VALVES • HEATING SPECIALTIES

quickest way to design  
dependable control  
into any  
packaged air conditioner

**3 key thermostatic expansion valves cover capacity requirements from 2 to 40 tons**

**MODEL 205 C**  
For air-conditioning, commercial and low temperature applications down to -40°F. Adjustable superheat. Available with or without external equalizer. ¾" x ¼" combination male flare inlet.

F12	F22
2 and 3 tons	*3 and 5 tons

\*also Methyl Chloride

**MODEL 217**  
Adjustable superheat: 2° to 20°F. Standard inlets: ¾", ½", ¼" and ⅜" O.D. solder. Standard outlets: ¾", ½" and 1½" O.D. solder.

F12	F22
2, 3, 7, 11 tons	3, 5.5, 11, 17 tons

**MODEL 218**  
New trouble-free disc and seat design. Adjustable superheat: 2°F to 18°F. Flange-type inlet and outlet connection: ¾", 1½" and 1¾" O.D.

F12	F22
16, 19 and 25 tons	25, 30 and 40 tons

A-P's broadened range of thermostatic expansion valves now enables you to design more dependable control into all sizes of home, floor and central systems from 2 to 40 tons capacity.

Each is available with famous A-P liquid charge or pressure limiting gas charge. Liquid charge gives you positive control at all temperatures—all positions. Adds all-purpose versatility... reduces stock and installation time, as well. Best of all—assures uniform quality performance throughout your line!

Investigate this one-stop shopping convenience. A-P offers a choice of sizes, inlet and outlet connections plus distributors for applications as wide as your imagination.

for complete details, write:

## A-P CONTROLS CORPORATION

2460 N. 32nd Street, MILWAUKEE 45, Wisconsin  
COOKSVILLE, Ontario  
For Export: 13 E. 40th Street, New York 16, N. Y., U.S.A.



DEPENDABLE Controls

For Air • Gases • Liquids • Refrigerants



## Supreme Court Deals Blow to Exclusive Dealing Contracts

WASHINGTON, D. C.—A company's exclusive dealing contracts with retailers can lessen competition even though the number of its competitors increased during the time the contract was in force, the United States Supreme Court ruled recently.

It upheld a Federal Trade Commission order against Dictograph Products, Inc. by denying the company a review of the FTC decision. FTC had found Dictograph in violation of the Clayton Act and the Federal Trade Commission Act for refusing to let dealers handle its Acousticon hearing aid unless they agreed not to handle competing brands.

In its defense, Dictograph had argued that it had not lessened competition because the number of hearing aid manufacturers rose from about 20 to more than 80 during the period its contracts were in force.

### Named Fedders Outlet

BUFFALO—Appliance Distributors, Inc., Indianapolis, has been appointed by Fedders-Quigan Corp. to handle the company's line of room air conditioners for that area.

## TV Melodrama Shows Woes of Discount House Customer Who Installed It Himself



NEAR CATASTROPHE falls upon family of purchaser of air conditioner who bought it from non-franchised dealer and tried to do installation himself, in TV film produced under sponsorship of Houston RACCA and Houston Better Business Bureau.

HOUSTON, Texas—The Refrigeration and Air Conditioning Contractors Association of Houston, in conjunction with the Houston Better Business Bureau, has developed a 15-minute film for TV presentation which illustrates both the tragic and comic consequences of the homeowner who tries to buy

an air conditioner from a "discount" or "back alley" dealer and attempts to install it himself.

In addition to pointing up the fallacies in such methods of purchasing air conditioning, the film presentation, a project inspired by RACCA of Houston and its president, W. D. Moody, also has a posi-



DISGUSTED WIFE OF "wise guy" buyer of air conditioners is shown after she tripped over strewn about wiring while hurrying to mop up the mess made by husband in trying to make his own installation.



tive side in demonstrating the advantages of making the purchase from a qualified air conditioning contractor.

The film was first seen by Houston TV viewers the middle of May.

First part of the film shows the homeowner buying a room air conditioner from a dealer who isn't particularly interested in doing a good installation job, and literally carrying it home under his arm. The script follows through with all kinds of trouble he encounters in attempting to make the installation, and the way it upsets his family, and the failure to get the kind of air conditioning desired.

Still not convinced, the homeowner is depicted making a back-alley purchase of a commercial package air conditioner, far too large for his needs, finally getting it working, and virtually freezing his family out of the home. Even after this experience, he makes another effort to work out a "special deal" and make the installation himself, which only leads to an-

other failure. Resort to primitive methods of cooling is found necessary by "smart" buyer after failure to get unit running. TV film stresses desirability of making purchase from, and having installation done by qualified contractor.

other failure.

Finally, he purchases a unit from a qualified air conditioning contractor, whose neatly uniformed installation crew get the unit running quickly and to his perfect satisfaction.

### WORTHINGTON DEALERS ARE SUCCESSFUL DEALERS!



"Worthington put an end to my financing headaches"

"It takes money to make money," says Nat Jewell, Hot Springs, Arkansas' leading air conditioning and refrigeration dealer. Like many another Worthington dealer, he's enthusiastic about the financial backing that's part and parcel of the Worthington franchise. Here's what Mr. Jewell says about it:

"The kind of inventory I need at the start of the selling season would ham-string me financially — except for one good reason — Worthington doesn't tie up my capital when I need it most! When sales get ready to roll, I've got a warehouse full of products . . . and still have money in my pocket for all the advertising and sales help I need to do a good job. As far as I'm concerned, Worthington's got the broadest and most sensible financing program in the business."

### Worthington can end your financing worries — 6 ways!

#### SEASONAL DISCOUNTS

Save up to 5% on carload lots by ordering in advance of the season. Early ordering assures sufficient stock and saves you money.

#### FIELD WAREHOUSING PLAN

Set up a complete inventory in your own warehouse and pay for it as you use it. Put your capital to work as you see fit.

#### RETAIL FINANCE PLAN

Retail dealers can discount their retail paper through Worthington (or through their local bank) . . . guaranteeing 48-hour service.

#### RE-PURCHASE AGREEMENT

The re-purchase agreement is designed to increase your present line of bank credit, enabling you to carry more stock — and sell more.

#### DEFERRED PAYMENT PLAN

Keep off-season sales high by inviting prospects to buy now . . . pay months later. Small down payment covers your installation costs.

#### CO-OP ADVERTISING

Reap benefits of Worthington's big-money national advertising program . . . plus generous co-op advertising plans.

Like Nat Jewell, you'll agree that Worthington backs its dealers to the hilt with the "broadest and most sensible financing program" in the industry. It's just one of many reasons why Worthington dealers are successful dealers. You'll find many more in Worthington's new monthly publication, "The Merchandiser." Write for it today. Worthington Corporation, Air Conditioning and Refrigeration Division, Section A.5.49-AC, Harrison, New Jersey. A.5.49

# WORTHINGTON



THE BEST FRANCHISE . . . THE MOST COMPLETE LINE

MAX SCHINKE,  
Service manager,  
ADMIRAL CORP.  
says

ELIMINATES ROOM  
AIR CONDITIONING  
INSTALLATION HEADACHES  
DUE TO INADEQUATE  
WIRING

FOR SINGLE PHASE,  
117 V, 60 CYCLE, AC  
POWER LINES

ONLY  
\$29.95

MR. SCHINKE also says that Admiral uses the new Simpson THERM-O-METER, Model 388, for all appliance temperature checks in the National Service Dept.

The -50° to +1000° F temperature range of Model 388 covers freezers, refrigeration, air conditioning, cooking ranges, stack temperatures, and ambient temperature rises of electrical components . . . all on one 7" scale.

Model 388 with 1 thermocouple probe . . . \$59.50  
Model 388-3 Lead with 1 thermocouple probe . . . \$64.50  
Additional probes . . . \$4.95



new!  
Simpson  
LINE-O-METER  
line current-capacity tester  
MODEL 397  
(ONLY 3-11/16" x 5-1/2" x 2-1/2")



PRE-TESTS  
ADEQUACY  
OF HOUSE  
WIRING  
to furnish  
motor starting  
currents from  
13 to 50 amperes

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WORLD'S LARGEST MANUFACTURER OF ELECTRONIC TEST EQUIPMENT



# Commercial Refrigeration

## 300 Ohio Farmers List Benefits

### Bulk Milk Cooling Results In Higher Quality Product, Lower Handling Costs, Less Work

FINDLAY, Ohio—Three hundred Ohio farmers have switched to bulk handling of fluid milk, it was reported here recently as Farm and Home Week panelists cited advantages for the bulk handling method.

The 300 farmers ship an average of 870 lbs. on every-other-day pickup. The 18 dairies picking up the milk were said to be well pleased with initial results of bulk handling in this state.

Among benefits listed for bulk handling were that it reduces bacteria count, eliminates the drudgery of can handling, and saves 5 to 10 cents on hauling costs.

Mark Göttemüller, Fort Laramie, Ohio, farmer, testified that his bulk tank made work easier, cut handling costs, and is an incentive for producing higher quality milk. It was pointed out that since milk is weighed at the farm, any loss of weight in shipping is absorbed by the processor, not the farmer.

Bulk tank handling means higher quality milk, said Frank Koval, Ohio State university dairy technologist. He said tanks lower the temperature of milk to 50° one

hour after milking and to 40° in two hours. This was termed generally faster than with methods presently used on Ohio farms.

Koval noted that cooling milk quickly keeps it in excellent physical condition and that there is less "stickage." Only one-seventh the surface area is exposed in bulk tank handling compared to tank handling, he said.

Be careful when buying bulk tanks, farmers were cautioned by Elmer Baumer, agricultural economist of Ohio State university. He said buying too large a tank increases initial cost by about \$400 for each 100 gals. over necessary capacity. He recommends buying a tank large enough to hold milk from five milkings.

Farmers were advised also that the cost of changing to bulk handling is high and that wiring costs add to the initial investment. They were told to shop around to find the best buys.

Farmers were further advised to be sure proper ventilation is provided in the milkhouse. D. M. Byg, Ohio State university agricultural engineer, said cooler operating costs will double if this is not done.

### Beat Customer at His Own Game! Anticipate Arguments In Advance, Distributor Advises

CHATTANOOGA, Tenn.—The best way to overcome a prospect's arguments is to keep him from making them in the first place, believes Walter Young, commercial refrigeration distributor here.

Young, who has been selling refrigeration equipment for more than 25 years, says he tries to anticipate customer objections in advance and counter them before they are made.

However, if the prospect gets the jump on you, Young adds, and starts to argue, you can't tell him to shut up in so many words. But there is another way to accomplish the same result.

That is to look away from the customer and shake your finger at him slowly. At the same time, say, "Wait a minute. Just a minute!"

When you do this, the other

person's instinctive reaction is to stop talking. He becomes curious and does not take offense.

Another device that Young uses to salvage a presentation that is going badly is to stop the presentation abruptly and ask:

"Do you mind if I ask you a somewhat personal question?"

"No."

"Do people sometimes get in your hair?"

"Why, yes, they do."

At this point, Young reaches into his pocket and pulls out a new pocket comb and case inscribed with his name in gold. He hands it to the prospect, saying,

"Well, here, use this to comb them out."

This unexpected gesture, Young indicates, will usually break the tension.

### Victory Metal Appoints Peterson Sales Engineer Merryman Heads Service For Bastian-Blessing

PLYMOUTH MEETING, Pa.—Victory Metal Mfg. Corp. here, maker of the "Vimco," "Sta-Kold," and "Sno-Queen" line of commercial refrigerators, has appointed O. Fred Peterson as national sales engineer, according to C. Jesse Popky, vice president in charge of sales.



Peterson was formerly associated with another refrigeration company. Prior to that, he was with various advertising agencies.

CHICAGO—The appointment of Cecil Merryman as manager of the service and parts departments of the Bastian-Blessing Co., fountain-food manufacturer, is announced by C. T. Johnson, sales manager.

Johnson points out that Merryman has had some 20 years' experience in the refrigeration and food equipment fields, the latter half of which he was engaged in administrative work.

Tom Daugherty, who has been with Bastian-Blessing for the past four years, has been promoted to assistant manager of the parts department, and Tracy Walkendorf, assistant service manager.

### Fogel Announces New Reach-In Freezer Models

PHILADELPHIA — Fogel Refrigerator Co. has announced six new reach-in freezers available in two basic sizes, with three exterior finishes.

Finishes include a choice of—white enamel exterior and polished aluminum interior, stainless steel front, aluminum sides and interior, or stainless steel front, sides, and interior. The models are designated "FW" series, "F" series, and "FS" series, respectively.

These models are available in two standard sizes. The smaller is 45 cu. ft. and the larger is 72 cu. ft.

All models are self-contained, and equipped with "Fogel-matic" automatic defrost and "Auto-vap" automatic drain condensate evaporators.

No drain connections are necessary. All excess water is evaporated.

### Liquid Carbonic Disposes of All Durable Goods Assets

CHICAGO — Liquid Carbonic Corp., which liquidated its soda fountain manufacturing operation in 1953, has announced that it will dispose of all remaining assets of its durable goods division.

Remaining operations include production of bottling and brewery machinery.

The company said sale of the division's assets will eliminate losses it suffered in most of the post-war years. However, disposal will result in a substantial non-recurring loss in 1955, it was pointed out. The loss will be charged to the firm's surplus account and won't affect 1955 earnings.

When the division's assets are sold, Liquid Carbonic will be engaged solely in the business of producing carbon dioxide and oxygen-acetylene.

### Servel Commercial Div. Names Hager To East Central Territory Sales

EVANSVILLE, Ind.—Cliff H. Hager, of Chattanooga, Tenn., has been appointed field sales representative in the east central territory for the commercial refrigeration division of Servel, Inc., according to John F. Zubrod, division product manager.



Hager has been a member of Servel's field service staff for the past two years. He has been doing service and sales work in the commercial refrigeration and air conditioning fields for 15 years.

Hager's territory will include parts of seven states—Indiana, Ohio, Pennsylvania, Kentucky, W. Virginia, Michigan, and New York. He succeeds William G. Smith, who resigned.

Before joining Servel in 1952, Hager was associated with leading wholesalers in Chattanooga.

#### JUST ASK US

For "easy-to-get" product information . . . use coupon on "What's New" page. Use Key No. for fastest service.

### Bally Ships 62 Refrigerated Cases for Jungle Installation

BALLY, Pa.—Modern refrigeration on the edge of a South American jungle!

It's coming in a few weeks to the food buyers of Cucuta, Colombia, a progressive small city just a few hundred miles from the equator.

Sixty-two refrigerated meat and delicatessen cases were recently shipped to the tropical community

by Bally Case & Cooler Co. They are destined for a large new government-subsidized market.

The cases, all self-contained units ready for operation, are to be used at stands to be rented to private concessionaires. It is believed that this will be the largest single installation of refrigerated display cases in Colombia.

NEVER AGAIN A TIME LIKE RIGHT NOW TO GET INTO THIS EXCITING NEW FIELD!

## What happens when half a million dairy farmers go bulk?



New WILSON Freezer line offers 15 to 90 cu. ft. capacities.

Makes ideal combination with coolers or other appliances for farm or city. Exclusive Center Plate Coil, other features, outstanding value! Twice the heritage of any other freezer line! Chests: 15 and 20 cu. ft. Uprights: 15, 20, 25, 35 cu. ft. Sectional Uprights: 30, 60, 90 cu. ft.



Somebody sells a lot of bulk milk coolers — it could be you!

Nobody knows how fast sales will grow . . . but milk producers in all leading states have tried bulk and like it . . . over half a million more are interested . . . and the big swing to bulk is really under way.

Wilson is 'way out in front—with know-how based on over 150,000 farm refrigeration installations! (Bulk and can coolers—farm freezers.) Wilson has the full line with sales-compelling, advanced design, farm-tested features! Wilson is setting the pace!

You can get the full story on this new mushrooming market and Wilson by writing Wilson today! You'll find this IS a once-in-a-lifetime opportunity!



America's leading manufacturer of farm milk coolers (bulk and can) for 25 years!  
WILSON REFRIGERATION, Inc., SMYRNA, DELAWARE. Division Tyler Refrigeration Corporation

## WILSON

### BULK MILK COOLERS HOME FREEZERS

WIRE, PHONE (Smyrna 5651)  
OR WRITE TODAY FOR THE GREAT NEW WILSON STORY!

Wilson Refrigeration, Inc., Department R-6, Smyrna, Delaware.  
Rush information on opportunities in Wilson: ☐ Bulk Milk Coolers ☐ Can Milk Coolers ☐ Home Freezers ☐ Sectional Upright Freezers.

NAME  ☐ DIST. ☐ DEALER

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MORE COILS ARE MADE BY KRAMER THAN BY ANY OTHER COIL MANUFACTURER





FIG. 6—A repair station where a dozen units can be handled at a time, Henry Leary gives unit a test charge of "Freon," which is forced into unit by nitrogen. Note also overhead electrical outlets.



FIG. 7—Dry nitrogen flows through unit as Erwin F. Blake sweats joint using copper welding rod. The nitrogen prevents oxidation and scaling.

This is Part Two of a three-part article describing a modern hermetic rebuilding plant and its operation. The plant reported on was built by James H. "Hans" White, a veteran in the field.



FIG. 8—After repair, a window unit is connected to vacuum lines in dehydrating room which can accommodate 18 units at a time, simultaneously pulling a vacuum while heat is applied externally by resistance unit heater in corner and the windings are heated by low voltage.

## Modern Hermetic Rebuilding Plant Helps Operator To Accomplish 'the Impossible' (2)

By C. Dale Mericle

Now the unit is moved to the repair station (Fig. 6) where 12 units can be worked on simultaneously.

Repair station setup consists of benches along the wall and overhead lines above the adjacent

floor area bringing "Freon" vapor and 115 and 230-volt current to the repair station. There are also lines for dry nitrogen and compressed air at the benches.

The "Freon" vapor is maintained under 150 p.s.i.g. pressure

by nitrogen to permit leak tests after repairs have been made, using a halide torch. Units are connected to the "Freon" supply lines by flexible hoses. The refrigerant is admitted to the unit by pressing a button, also suspended overhead, which controls a solenoid valve.

Pure nitrogen is piped through the units during the sweating of lines. (See Fig. 7.)

"Nitrogen prevents oxidation and scaling during the sweating operation," White explains.

### Copper Welding Rod Used

Sealed Units, incidentally, uses copper welding rod rather than conventional soldering or brazing alloys in sweating lines.

"Copper gives a better joint and a nicer appearing job," White contends.

All electrical supply lines coming into the repair station section go through large 6-in. ammeters mounted on the wall above the benches, and are protected by three-pole circuit breakers.

To avoid problems in leak detecting with halide torches at the repair station due to stray traces of "Freon" vapor being in the atmosphere, White has equipped the shop with five multi-speed 49-in. exhaust fans.

"With all five fans operating at full speed, we can get five complete air changes per minute in the shop," he says.

### Dehydrating Room

After all repairs has been completed on a unit, it is moved into the dehydrating room.

Interior dimensions of the room are 16 ft. long, 8 ft. wide, and 7 ft. high. Equipped with two large doors, this room is very well insulated and vapor-proofed.

"In dehydrating units, we use a combination of (1) external heat from a resistance heater, (2) low voltage, usually 24 volts, connected to the motor windings to heat them, and (3) vacuum," White explains.

Fan on the resistance heater runs constantly during a dehydrating cycle, and operation of the heater itself is controlled by a thermostat, the bulb of which is located at the height of a dolly.

"We want to control the tem-

perature at the lowest point of the unit," White says.

Temperature of the room is maintained at some point between 150° F. and 227° F., depending on the job.

(Now comes the part that most experts don't believe.)

Along the ceiling of the dehydrating room are three 2-in. copper vacuum lines (Fig. 8) each of which is designed to accommodate six units at a time. There are two flare connections for each unit in these lines (12 in each line), to permit pulling a vacuum on both the high and low sides of a unit at the same time. Flexible hose and Hanson two-way, self-closing, quick couplers are used to connect each unit to the vacuum lines at the ceiling.

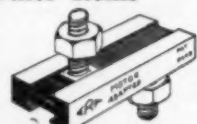
In all, 18 units can be dehydrated at one time.

White has six vacuum pumps for the dehydrating room, two for each of the three lines. (See Fig. 9.) One is a "rough" vacuum pump which can pull a vacuum down to 28½ to 29 in. Another is a "fine" vacuum pump which goes on from there, pulling a vacuum down to between 400 and 200 microns or lower as specified by the manufacturer.

Incorporated in the vacuum system are 11 special solenoid valves which will hold for an indefinite period even the extremely low vacuums produced by the system (Continued on next page)

### MOTOR BASE ADAPTERS Sell Many Other Items

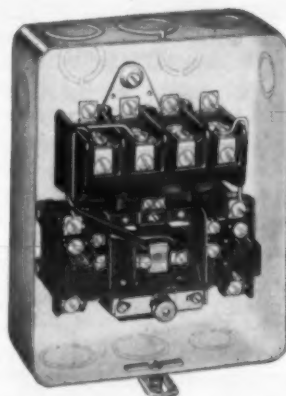
Keep them in stock. Servicemen will pick up adapters and motors, carry them in their cars, and complete service on the job in one call. Eliminates delay of having motors away for rebuilding. Adapters are easy to install, fit any base. No rotor shaft too long or too short. They also bring you more sales in motors, belts, pulleys, controls, etc. **SIZES FOR ¼ to 3 H.P. Inclusive**  
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3475 East Nine-Mile Road  
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### TROUBLE FREE STARTERS for Squirrel Cage Motors

Reliability is the first requirement of air-conditioning controls. That's why Allen-Bradley Bulletin 709 solenoid starters are so popular with air-conditioning engineers. Their silver alloy, double break contacts require no maintenance attention. Send for Bulletin 709 and also Bulletin 836-837, today.

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**ALLEN-BRADLEY**  
QUALITY  
**SOLENOID MOTOR CONTROL**



*Right down the Line  
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Just Happen!*



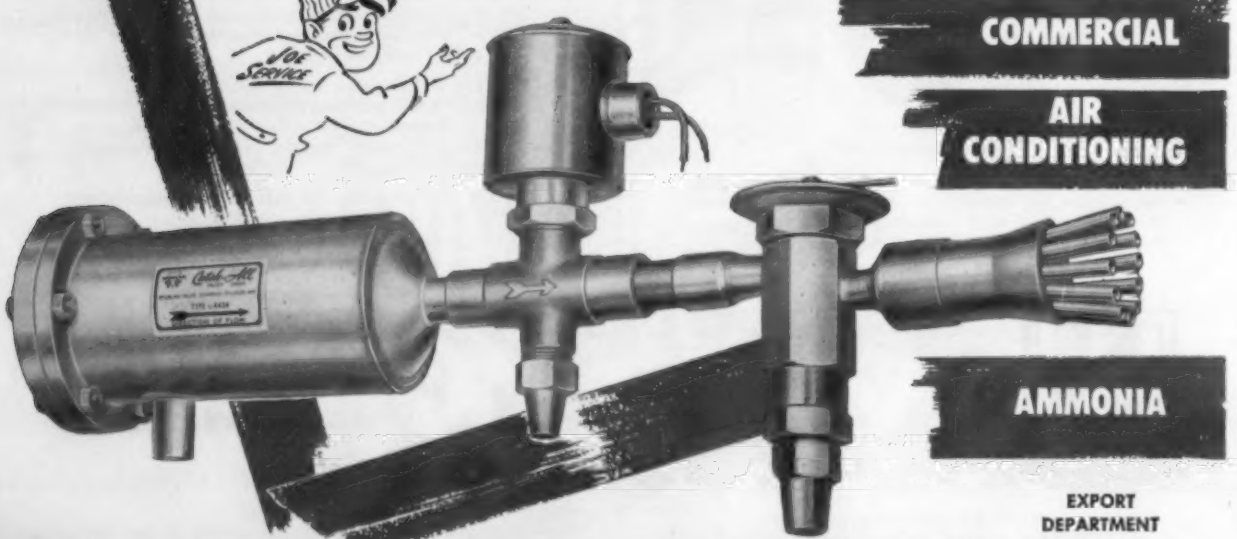
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Refrigerant Distributors alone can give you  
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ST. LOUIS 17, MO.



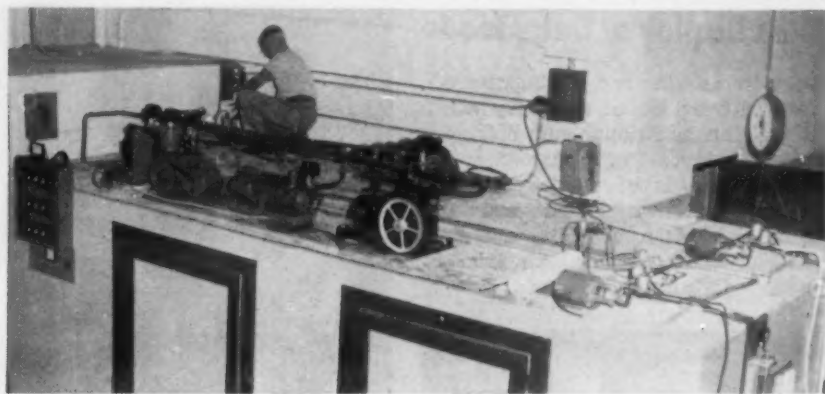


FIG. 9—Six vacuum pumps (three "rough" and three "fine") are located atop the dehydrating room along with two pumps (at right) for charging.

## Hermetic Rebuilding Plant--

(Continued from preceding page) with the pumps stopped.

"Knowing that the valves will hold the vacuum with the pumps off gives us a final check on leaks in a unit," White explains. "If the vacuum gauge rises when the pumps are shut off, this means either the unit isn't completely dry or there is a leak."

Master control board (Fig. 10) for the dehydrating system is a control expert's dream (or nightmare, depending on his point of view). A compact array of toggle switches and gauges is needed to control the vacuum pumps, operate the solenoids, set the low voltage for internal heating, supply constant voltage for electronic

gauges measuring vacuum, etc., etc.

Vacuum is measured on a five-position micron gauge manufactured by Hastings.

Normal dehydrating procedure is described by White as follows:

"After the units are hooked up to the vacuum lines, they are 'rough pumped' for an hour while the windings are being heated with low voltage. Then the resistance heater is turned on to bring the room to 150° to 227° F., and the fine vacuum pumps are turned on.

"Latter operates until the units are dry, at least down to a -40° F. dewpoint, which usually takes a minimum of four hours. A longer time is required for large systems.



FIG. 10—With this master control panel "Hons" White can easily switch from "rough" to fine vacuum during dehydrating, control heater and internal heating, read the vacuum produced, and break the vacuum with dry refrigerant, all by flicking the right switch.

"If an individual unit doesn't pull down enough in four hours, we disconnect it, hooking it up to the vacuum lines at the end of the day and permitting to be dehydrated overnight."

Vacuum is broken with "Freon" vapor to prevent moisture getting into the unit once it's been dehydrated.

A flick of a switch at the master control board breaks the vacuum and admits the "Freon" vapor.

### Charging the Unit

Now the unit is ready to be charged.

Charging setup is located just outside the dehydrating room, the equipment being mounted on the end, and one top of, the dehydrating room, in fact. (See Fig. 11.)

With this setup a unit can be charged in three minutes to within 1/4 oz. of the refrigerant charge specified, White claims.

There are two identical charging setups, one for "Freon-12," the other for "Freon-22."

Specially designed pumps force liquid refrigerant into calibrated glass measuring devices, thus eliminating the need for heating the refrigerant drums to supply pressure. The pumps also can create any desired vapor pressure in the charging board so that sealed systems can be charged quickly, according to White.

He revealed that he is planning to incorporate a constant pressure valve connections between the charging board and refrigerant supply which will maintain constant pressure despite variations in room temperature.

The charging systems are now protected with safety blow-off valves which will function in the event the refrigerant pressure should go too high.

Also at the charging board is a precision detector set of scales having three (instead of the usual two) sliding counter-weights. This scale, which can measure to 1/8 oz., is used primarily to recheck the calibration of the charging board and to verify their adjustment.

(To Be Continued)

## Marsh Opens New Plant, Office In Alberta

EDMONTON, Alta., Can.—Opening of a new manufacturing plant and sales office here was announced recently by the Marsh Instrument & Valve Co. (Canada) Ltd. The plant is located at 8411 103rd St.

M. C. Minton has been named resident manager and Clyde Fisher, a factory trained instrument specialist, heads the manufacturing staff. Both are Edmonton residents.

Located in the center of Canada's fast growing oil industry, the plant will manufacture indicating gauges and needle valves specifically for the petroleum field, in addition to gauges of all types, regulating valves, industrial thermometers, and needle valve for use in all industries.

## Service & Supplies

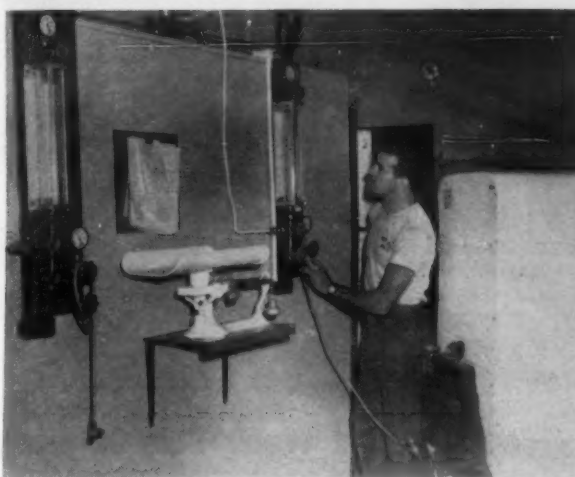


FIG. 11—Charge is quickly but accurately forced into unit after dehydrating by special pump arrangement. One board handles "Freon-12," the other "Freon-22."

### St. Regis Acquires Kline Plastics Div.

NEW YORK CITY—St. Regis Paper Co. announces that it has acquired the assets, including all equipment, of the plastics division of Kline Mfg. Co., Galeno, Ohio.

The transfer became effective June 1, and the Panelyte Div. of St. Regis has commenced to move the vacuum forming and extrusion equipment of the Kline plastics department to its new vacuum forming plant at Richmond, Ind.

With this additional equipment, states C. R. Mahaney, vice presi-

dent of St. Regis and general manager of the Panelyte Div., the Richmond plant will be adequately prepared in vacuum forming capacity to take care of existing demand from the refrigeration, lighting, radio, television, furniture, and packaging fields.

In August of last year Panelyte announced its entry into the vacuum forming field, with the plant location at Richmond, Ind. chosen as the geographic center of the refrigeration industry.



## "REEL" VALUE

Wolverine's new round carton—the latest time-saving packaging development for the industry is loaded to the brim with "reel" values for sales-minded refrigeration wholesalers.

It's a functional carton—designed to help both you and your customers. Consider these features when you order—point them out to refrigeration service engineers.

The compact carton holds a flat roll of tube—saves valuable storage space. Color coding and reversed nomenclature makes it a snap to identify contents from any angle. A convenient center arm hole simplifies carrying—lets it be used as a reel on the job or in the shop. The gum-taped outer rim speeds up opening without destroying the carton—the tube is protected right up to the last inch. Yes, and every carton also carries Wolverine's famous "Buy From Your Wholesaler" slogan.

Here's the important clincher! The carton contains the same top-quality Wolverine Copper Refrigeration Tube—clean, dry, soft and uniform—long recognized throughout the industry for its dependable performance.

Start sales jumping—specify Wolverine Copper Refrigeration Tube—the roll of tube that rolls—on your next order. Be sure, too, to write for your copy of the handy Wolverine Want Book.

Wolverine Tube, 1413 Central Avenue, Detroit 9, Michigan.



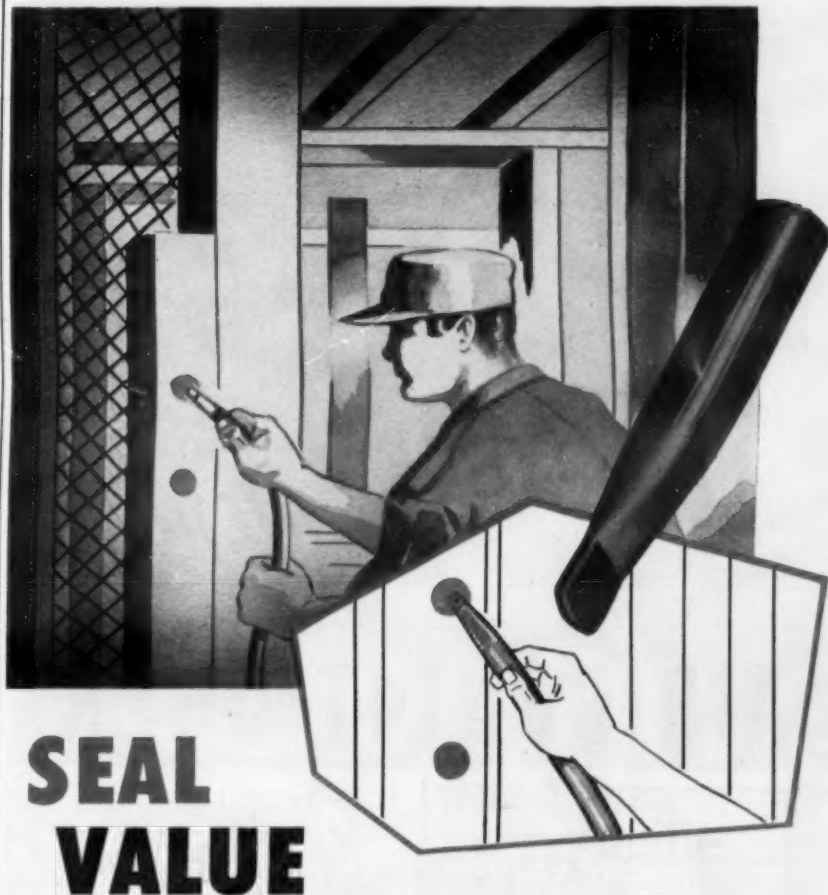
**WOLVERINE TUBE**

DIVISION OF CALUMET & HECLA, INC.

Manufacturers of Quality-Controlled Tubing and Extruded Aluminum Shapes

PLANTS IN DETROIT, MICHIGAN, AND DECATUR, ALABAMA.  
SALES OFFICES IN PRINCIPAL CITIES.

EXPORT DEPT., 13 E. 45TH ST., NEW YORK 16, N.Y.



## SEAL VALUE

Another startling development at Wolverine is a new method for sealing the ends of refrigeration tube.

Instead of a bulky seal, Wolverine produces an end closure with a slightly smaller outside diameter than that of the tube. Because of the smaller end, the tube can be inserted through partitions easier and faster—saving valuable on-the-job time. Sealing is positive—the tube interior is protected against moisture and dirt.

This new carton and seal are just two examples of how Wolverine is constantly improving products and services—making Wolverine Tube easier for you to sell.

Constant research and Tubemanship guarantee that Wolverine Copper Refrigeration Tube will do an outstanding job for your customers.

There's no doubt about it. When you sell Wolverine Copper Refrigeration Tube, you're selling one of the industry's most consistently excellent products. Order Wolverine Copper Refrigeration tube today. And for more sales-producing ideas, write for your copy of the booklet "Wolverine Tube Is Easy to Sell."

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**WOLVERINE TUBE**

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PLANTS IN DETROIT, MICHIGAN, AND DECATUR, ALABAMA.  
SALES OFFICES IN PRINCIPAL CITIES.

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## What's New (Con't)

### Roll Out Beverage Dispenser Offered as Accessory



—KEY NO. E-626—

CINCINNATI—A set of dispensers for frozen juice concentrates and canned beverages that moves another can into position when one is removed is being offered as a Crosley refrigerator accessory.

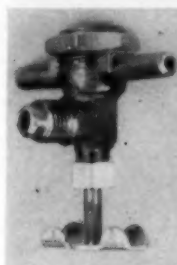
Marked as a \$5 value to retail at \$1.99, the set consists of two metal storage racks with a capacity of eight or more cans. According to Crosley home economists, the dispensers occupy less refrigerator storage area than the number of cans they can store.

Known as the "Chill 'n Serve" roll-out juice and beverage dispenser set, they will be advertised through local dealer cooperative advertisements as traffic builders.

### Rigid-Saddle 'Tapaline' Will Fit 3 Tubing Sizes

—KEY NO. E-627—

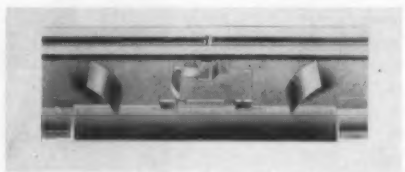
NORTH HOLLYWOOD, Calif.—Mechanical Refrigeration Enterprises has announced a new multi-size, rigid-saddle "Tapaline" that will fit three sizes of tubing, 1/4 in., 5/16 in., 3/8 in.



With the new Tapaline, refrigeration troubles can be diagnosed without disturbing the system.

It is said to eliminate cutting tubes and using flare fittings or soldering in a charging tee. It also eliminates flaking or corrosion inside of tubing due to silver brazing or soldering, according to the company.

It is priced at \$1.75.



### Perimeter Diffusers Have Built-In Dampers

—KEY NO. E-628—

WATERLOO, Iowa—Perimeter diffusers equipped with a new built-in damper are now being offered by Titus, Inc.

The damper operates by means of a lever control from the center of the top slot. It will adjust from full open to full closed position and is provided with an adjustable screw stop to meet special air volume requirements, according to the manufacturer.

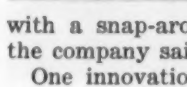
Built-in damper does not increase the cost of the diffuser, Titus says.

### Current, Voltage Readings Available at Wall Plug

—KEY NO. E-6210—

LYNBROOK, N. Y.—Pyramid Instrument Corp. has announced two important new features incorporated in the new "Amprobe Energizer" model A-40.

This accessory makes possible instant current and voltage readings at the wall outlet, when used in conjunction



with a snap-around volt-ammeter, the company said.

One innovation is the providing of receptacles for measuring line voltage at the outlet under actual load conditions while the appliance is connected to the line.

Another new feature is the heavy duty construction which increases the capacity to 25 amps for direct current readings, and 10 amps for 10x sensitivity readings.

The new Amprobe Energizer performs three functions which make electrical checks easier:

1. It serves as a "split" plug to divide double-conductor line cords at the outlet for a quick snap-around ammeter reading.

2. It can increase split core ammeter sensitivity by 10 times for precise readings on small appli-

ances and fractional horsepower motors.

3. It also makes it possible to measure line voltage at the outlet while the appliance is connected to the line.

The Amprobe Energizer is first plugged directly into the ordinary outlet receptacles. Then the motor or appliance cord is plugged into one of two current-reading positions.

### Disposable Cylinders for Gases, Aerosols

—KEY NO. E-6212—

BUFFALO—New economy is being claimed for disposable cylinders for aerosols and compressed gasses developed by Tube Manifold Corp.

Cylinders combine low first cost, light weight, and compact size. They are designed for either cup type of any other standard fittings, according to the company.

Other features claimed are: eliminates deposits, cleaning, refinishing, and relabeling, and there is no contamination from previous use.

The Amprobe Energizer is priced at \$3.75, complete with pouch.



### Cooling Tower Suitable For Indoors or Out

—KEY NO. E-6213—

AUSTIN, Texas—A new "Hiway" induced draft cooling tower is now available in ratings from 2 through 15 tons.

The tower, manufactured by Toungate & Coats, is adaptable for both residential and commercial installation, and is especially designed for speculative building.

It features all clear heart redwood construction to reduce corrosion and chemical reactions of water. Water distribution is by gravity flow.

The tower is shipped completely assembled and includes all fittings and float valve. The Hiway is suitable for both indoor and outdoor installation.

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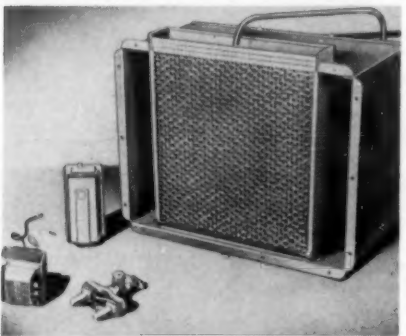
ask us about them



NATIONAL LOCK COMPANY

ROCKFORD, ILLINOIS • REFRIGERATOR HARDWARE DIVISION

### Research Products Offers Furnace-Installed Humidifier



—KEY NO. E-629—

MADISON, Wis.—Research Products Corp. has announced the development of "Aprilaire"—a new

humidifier designed for installation on forced air furnaces.

The new unit is controlled by a humidistat and an electrically operated solenoid valve. It mounts on the warm air plenum, with the entire assembly outside the plenum. Aprilaire is equipped with a blower which is wired in series with furnace blower.

A saddle valve connection to the water supply pipe and connection of humidistat completes installation, except for the mounting of the unit on the plenum.

"Operation is basically simple," according to the company.

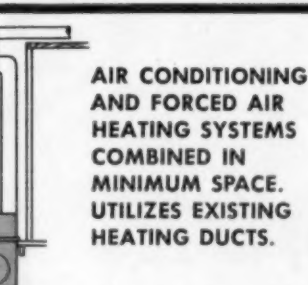
### Philco Introduces New Divided Top Range

—KEY NO. E-6211—

PHILADELPHIA—A 40-in. deluxe electric range, model 454-D, has been introduced by Philco Corp.

The range features a divided top and 23-in. wide oven. Oven is equipped with Philco's new "Quick-set" timer which requires only two settings, cooking time and finish time, according to the company.

Suggested retail price for model 454-D is \$269.95.



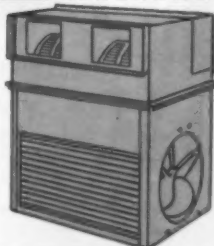
FLOOR MODEL 2 h.p.

Compact unit requires no ducts, does an exceptional cooling job in the average home. Ready for easy installation.



ATTIC, ROOF OR OUTSIDE INSTALLATION UNITS. 2 and 3 h.p.

Completely waterproof and insulated against heat of sun. Can also be used for slab floor or basement tie-in. Uses existing ducts.



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NATIONWIDE SALES AND SERVICE



## What Was New At the Restaurant Show



THE MOLDS THAT MAKE THE SOLID ROUND CUBES produced by the "Senior Kube King" ice maker are shown by La Crosse Cooler Co.'s E. C. Redmond to Earl Dorrough of Tyler, Texas.  
KEY NO. E-6214



STAINLESS STEEL LINING ON interior of the freezer section is the new feature on this two-temperature reach-in refrigerator, Eugene Buday, vice president of Stainless Food Equipment Co., points out to Jules Jasper, sales representative in the middle eastern states. KEY NO. E-6215

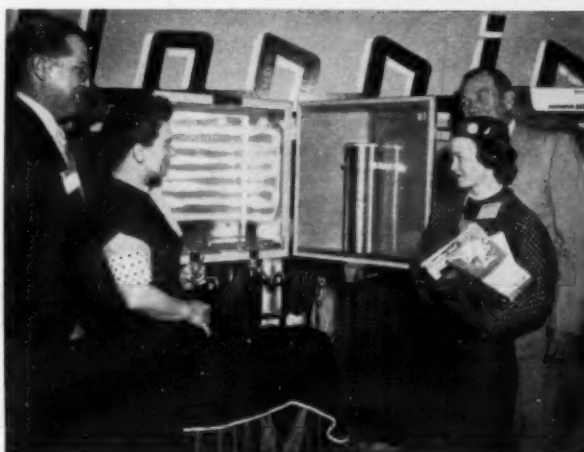
For further details on items pictured on these two pages please use the "Information Center" blank which appears on page 22, referring to the key number with the outline. Additional pictures from the National Restaurant Show were published in the issues of May 23, May 30, and June 6.



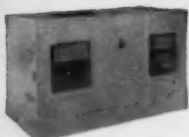
LISTENING TO DON HILKE (r.), sales manager of Everfrost Sales, Inc., as he explains the new "Speed-Serv" dispenser head for root beer and coca cola on his company's 30-gal. fountainette are Mr. and Mrs. David Blank of Milwaukee. KEY NO. E-6216



LESS THAN 1 1/4 SQ. FT. OF COUNTER SPACE is needed for Jet Spray Corp.'s electrically refrigerated drink dispenser, Joseph P. Flynn of Jet Spray (r.), informs W. R. Renrut of New York City.  
KEY NO. E-6217



INSPECTING THE 6-QT. CREAMER they manufacture for the Norris milk dispenser are Henry and Mrs. Morasch of the Wyatt Mfg. Co. (l.). Charlotte Link of Chicago and Ed Coleman, Chicago representative for Norris Dispensers, Inc., are equally pleased with the added feature.  
KEY NO. E-6218



Packaged Waterless (Air-Cooled) Air Conditioners—no water needed, no plumbing required. 2, 3, 5 and 7 1/2 H.P.



Packaged Water-Cooled Air Conditioners in 6 models, from 2 to 15 H.P.

### AIRTEMP has only one interest—air conditioning! This specialization will help you sell!

Airtemp's specialization brings you many selling advantages:

**Sales are higher**—when you deal with a *specialist*! Airtemp makes only air conditioning equipment. As a dealer, you get 100% of Airtemp's attention and guidance.

**Sales are higher**—when you offer a *complete line*! Airtemp manufactures a full range of 10 different models—both water-cooled and waterless.

**Sales are higher**—when you sell the *leader*! In "Packaged" air conditioning, more Airtemp units have been sold than any other kind. This Airtemp leadership, plus the trusted Chrysler name, assures you of full public acceptance.

**Sales are higher**—when you're with a *pioneer*! Airtemp pioneered "Packaged" air conditioning 18 years ago. This experience has kept Airtemp out in front through the years.

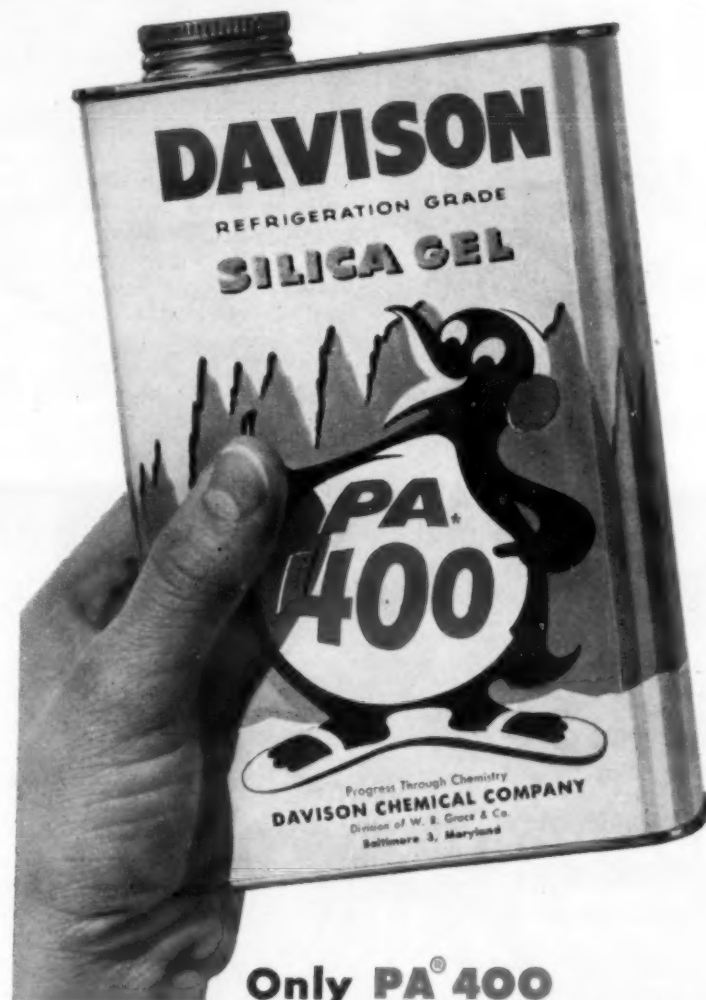
**Sales are higher**—when you're backed by *advertising*! Your prospects are pre-sold on the Airtemp line by regular, hard-selling advertising campaigns.

If you want full information on how Airtemp Packaged Cooling Franchises are bringing big profits to dealers, write to: Airtemp Division, Chrysler Corporation, Dayton 1, Ohio.

**Airtemp**  
DIVISION OF CHRYSLER

"The Line That Pays"

AIR CONDITIONING • HEATING FOR HOMES, BUSINESS AND INDUSTRY



**Only PA-400  
gives you all the required qualities**

- HIGHEST CAPACITY ● PHYSICAL ADSORPTION NOT CHEMICAL ACTION
- DRIES REFRIGERANTS TO BELOW 2PPM AT 120°F. ● ADSORBS ACIDS ● NON-DUSTING
- MINIMUM PRESSURE DROP ● NON-DELIQUESCENT ● NO CHANNELING

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**DAVISON CHEMICAL COMPANY**  
DIVISION OF W. R. GRACE & CO.  
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Producers of: Catalysts, Inorganic Acids, Superphosphates, Triple Superphosphates, Phosphate Rock, Silica Gels and Silicofluorides. Sole Producers of DAVCO® Granulated Fertilizers.





"MERCHANDISING ELEVATION" is what John Donnelly, vice president of Club Bar, Inc., calls the raised height of the Club Bar drink dispenser with space beneath for four syrup tanks.  
KEY NO. E-6218

FEATURES OF JORDON REFRIGERATOR CO.'s new 60-cu. ft. reach-in with enamel exterior and aluminum interior are described by Joseph Wiley, Jordan Chicago representative (l.), to Gene Franklin of Better Living, Inc., Chicago.  
KEY NO. E-6219



UNUSUAL SHAPE OF ICE CUBES produced by the American Automatic Ice Machine Co.'s model B-200 ice maker is shown by Gid Cook of the company's sales department. This model makes either cubed or chipped ice. KEY NO. E-6220



"TRES INTERESSANT," comments Roger Labre (r.), who operates a milk bar in Paris, France, as he listens to True Mfg. Co. salesman Bud Wilkerson point out the features of True's new "Porta-Bar."  
KEY NO. E-6221

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### Nature of Supermarket Operation

## 46% of SMI Stores Account for Nearly 75% Of Sales Volume by Membership, Survey Shows

CLEVELAND—"A supermarket is a complete, departmentalized food store with a minimum sales volume of \$1 million a year and at least the grocery department fully self-service."

So decreed the Super Market Institute at its recent national convention here.

However, by its own definition, only 46% (3,244) of the stores operated by SMI members would have qualified as supermarkets in 1954.

But, Kurt Kornblau, director of research for the institute, declared in his annual report, these 46% of the stores account for nearly three-fourths of all SMI member sales; and they averaged an estimated \$1,520,000 per supermarket, or close to \$30,000 a week.

### NEW DEFINITION WILL NOT AFFECT PRESENT MEMBERS

The new SMI definition of a supermarket is for determining minimum volume required for membership in the institute and, according to Kornblau, represents "the modern concept of a supermarket." He quickly added that the new definition will not affect the status of any present members.

In his report, Kornblau offered some interesting statistical information on supermarkets. (Highlights of his report were previously published on page 1 of the May 9 issue of the NEWS).

He pointed out that SMI members operated a total of 7,092 stores located in every state in the country except Nevada, and also in Hawaii and several foreign countries. Combined sales volume last year of the 744 member companies totaled \$6,932 million.

### SMI MEMBERS ACCOUNT FOR 18% OF U. S. VOLUME

The stores represented in the institute comprise less than 2% of all grocery stores in the United States and accounted for 18% of all U. S. grocery store sales last year, he said.

Kornblau noted that their sales during 1954 rose 15% over 1953, as compared with a general food industry increase of 4%.

One out of three SMI markets did \$2 million or more and nearly one out of 10 did \$3 million or more in sales.

The mountain-Pacific area boasts the largest average sales per supermarket (\$1,860,000) and the

largest proportion of supermarkets (64% of all stores).

Conversely, the west north central region has the smallest sales per supermarket (\$1,270,000) and the fewest supermarkets (32%).

Kornblau declared that one or more stores were sold or closed by 19% of the reporting companies. These stores, practically all of them smaller stores, equaled 5% of all stores operated by SMI members.

Kornblau asserted that 205 companies participated in a SMI survey on weekly sales per sq. ft. of selling area—the area in which customers circulate.

Typical sales per sq. ft. of selling area were \$3.64. This is the median figure, halfway between the highest and lowest reported. Half of the reporting companies averaged sales per sq. ft. between \$3 and \$5. The extremes were reported mainly by smaller companies.

Previous SMI surveys have shown that selling area averages about two-thirds of the total store area (including back room, basement, and mezzanine), Kornblau said. Thus, sales per sq. ft. of total store area averaged about \$2.40.

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## SERVICING AUTOMOBILE AIR CONDITIONERS

BY C. DALE MERICLE

**Editor's Note:** The boom in automobile air conditioners can mean a new source of income for the independent refrigeration servicemen alert to the possibilities.

To help him capitalize on this development AIR CONDITIONING & REFRIGERATION NEWS has prepared a series of articles describing and giving service hints on numerous makes of such equipment. Not only will units of leading "independent" manufacturers be discussed in this series but those of virtually all automobile manufacturers as well.

The following instalment is the first in this timely new series.

### A.R.A. (1)

A.R.A. Mfg. Co.  
1041 Foch St.  
Fort Worth 7, Texas

#### DESCRIPTION

A.R.A. Mfg. Co. is one of the oldest and largest independent manufacturers of automobile air conditioners. The initials, incidentally, stand for "Automotive Refrigerated Air-Conditioning."

It manufactures units to fit most U.S. passenger cars, including station wagons, and also units to cool ambulances and truck cabs.

There are three 1955 models for

standard passenger cars. The A.R.A. "President" is designed for larger passenger cars and is rated at 2½ tons capacity. The A.R.A. "Executive" is designed for lighter passenger cars and is rated at 2 tons capacity. A "Custom" Ford-Mercury unit designed especially for application to Fords and Mercurys is rated at 2 tons capacity.

Models previous to 1955 included the "Refrigair, Sr." rated at 2½ tons and the "Refrigair, Jr." rated at 2 tons.

Arrangement of major components in these units provides for mounting the compressor on the car engine, the condenser in front of the car radiator, and the evaporator-blower assembly in the trunk of the car. (See Fig. 1).

A specially designed evaporator-blower assembly, however, is of-

fered by A.R.A. for station wagons, which, of course, have no trunk compartment. The station wagon evaporator-blower assembly is installed overhead against the roof near the rear end of the station wagon. (See Fig. 2). Compressor and condenser are located the same as in conventional installations.

The truck cab air conditioner, which also supplies heating for winter, combines the evaporator-blower assembly into a compact unit which is installed in the truck cab beneath the instrument panel on the right side. (See Fig. 3). Compressor and condenser for truck systems are installed in the conventional locations.

"Freon-12" is the refrigerant used in all systems. The charge for

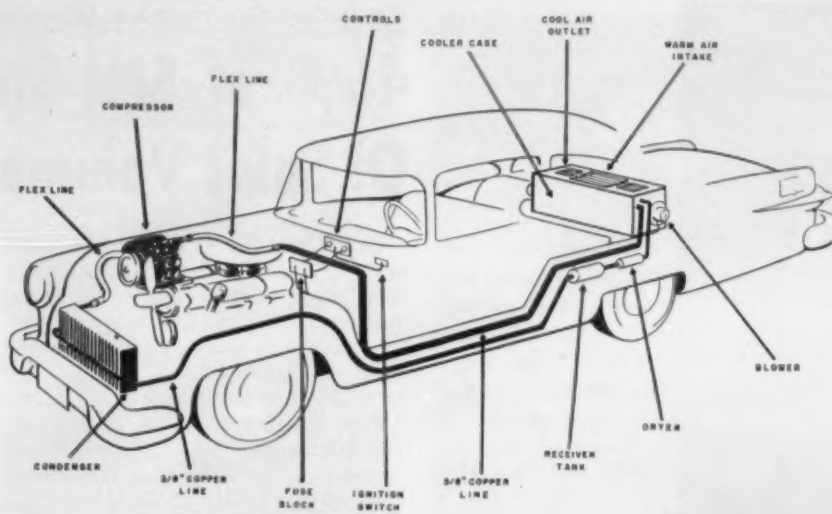


FIG. 1 is a schematic view showing location of various components in A.R.A. automobile air conditioning system.

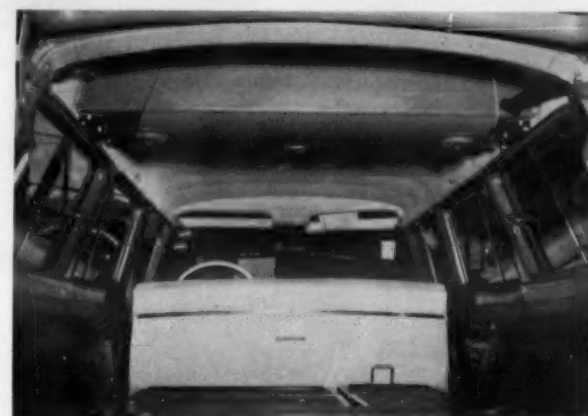


FIG. 2—Special A.R.A. evaporator-blower assembly for station wagons is installed overhead near the rear end.

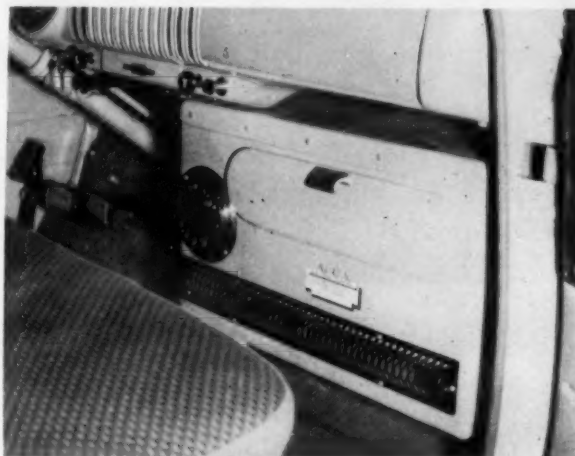
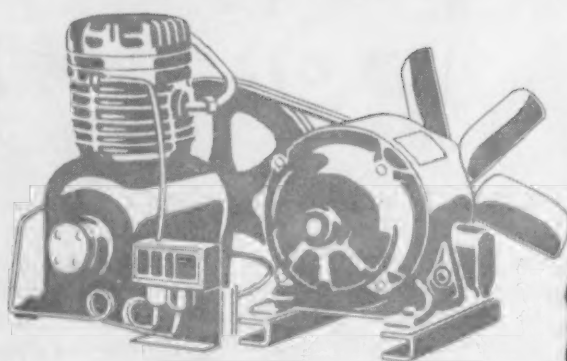


FIG. 3—A.R.A.'s Frigikab air conditioner for trucks provides installation of evaporator-blower assembly in truck cab beneath instrument panel.

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the President and Refrigair, Sr. units is approximately 6 lbs. For the Executive, Ford-Mercury Custom, and Refrigair, Jr. units the charge is approximately 5 lbs.

#### Compressor

Various makes and models of compressors have been employed by A.R.A. through the years. Systems in 1955 production use either the Tecumseh HH compressor in vertical or horizontal mountings or the Lehigh V-93 compressor.

Other compressors on A.R.A. systems have been the Tecumseh VDPA model, Lehigh E-55A and E-57 models, Servel ZB compressor (discontinued in 1951), and the General Electric CW-4, which was used on some units made in 1952 and 1953.

Suction service valve of the Tecumseh HH compressor is located on the left side (viewed from flywheel end), and discharge service valve is on right side.

On the Tecumseh VDPA, Lehigh V-93, and G-E CW-4 compressors, the discharge service valve is located on top of the compressor between the cylinder heads, and the suction service valve is on the end of the compressor opposite the flywheel.

On the Lehigh E-55A and E-57 models, the suction service valve is on the end of the compressor opposite the flywheel, and the discharge service valve is on the left side (looking from the flywheel end).

On the Servel ZB compressor the discharge service valve is on the left side and the suction service valve on the right side (looking from the flywheel end).

#### Condenser

Condensers on A.R.A. systems are located in front of the car radiator.

With the Executive and the Custom Ford-Mercury units a liquid receiver is installed in the liquid line. With the President unit a heat exchanger-receiver is used. In all units a drier is included in the liquid line between the receiver (or heat exchanger-receiver) and the thermostatic valve.

#### Evaporator

The A.R.A. evaporator-blower assembly, as previously stated, is installed in the forward end of the luggage compartment in passenger car applications with the exception of station wagons. A special overhead unit is employed in the latter.

The evaporator-blower assembly for trucks mounts beneath the instrument panel in the truck cab itself.

Evaporator coil, expansion valve, and two blowers (one blower on truck unit), are housed in the evaporator assembly. (See Fig. 4). There is a blower at each end, operating in opposite directions, to pull air in through the return air grille mounted in the center of the parcel shelf directly above the evaporator assembly case and then discharge the cooled air through outlets at each side of the parcel shelf.

Flexible ducts run between the unit and the supply and return air grilles in the parcel shelf.

On current A.R.A. models Detroit 673 thermostatic expansion valves are being used. They are used in conjunction with either solenoid by-pass valves or "modu-

(Continued on next page)

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## Service & Supplies

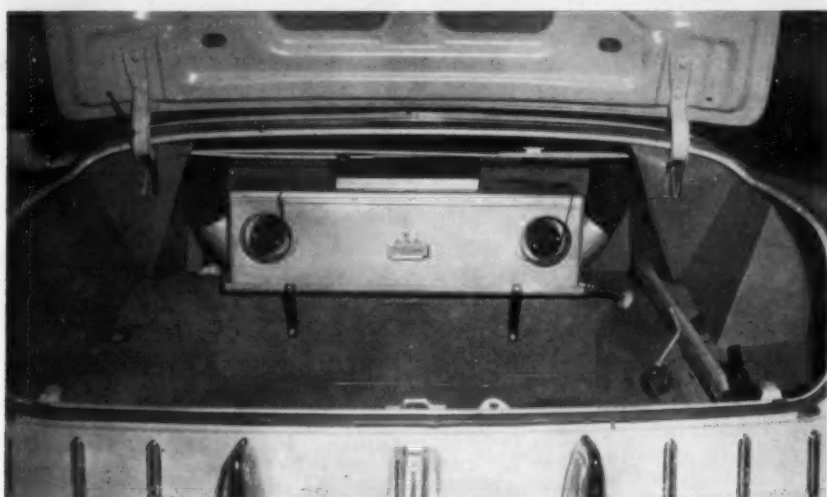


FIG. 4 shows how evaporator-blower assembly fits in trunk of car. This is an A.R.A. 1955 Executive model.

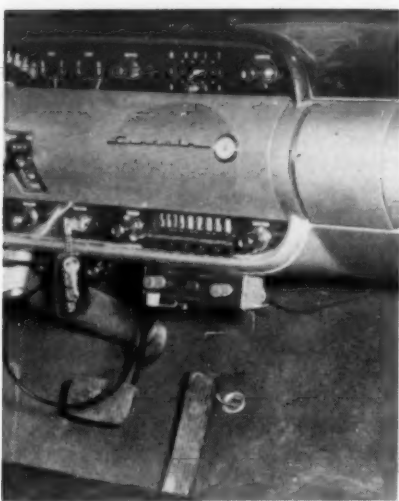


FIG. 5—Controls for A.R.A. conditioners mount beneath car instrument panel.

### Servicing Auto Coolers--

(Continued from preceding page) lating" valves. The modulating valve is standard with the President unit, and the Executive unit is provided with either the modulating valve or the solenoid valve. Function of the solenoid by-pass valve is to by-pass high pressure discharge gas from the compressor into the suction line, thus by-passing the condenser and evaporator.

#### Controls

The modulating valve, which is controllable from the dash, permits the operator to regulate the amount of air conditioning that will be provided. When the control is manipulated to reduce cooling capacity, this valve likewise by-passes high pressure discharge gas from the compressor into the suction line at a rate that varies with the adjustment.

Air flow control on the A.R.A. air conditioning systems is through two switches mounted in the instrument panel on the dash, one for each blower motor. Each blower motor switch can be set for high or medium speed operation of the blowers as well as in the off position. (A single blower and one two-speed blower switch is provided on A.R.A. truck cab units).

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Operation of the solenoid by-pass valve is controlled by a toggle switch mounted on the control panel between the two blower control knobs. When in the "on" position, this switch opens the solenoid by-pass valve. The control of the modulating valve is by means of a control cable operated by a lever immediately below the blower motor control panel. (See Fig. 5).

Optional accessory available for use with the Lehigh V-93 compressor is a Warner electrically operated clutch, which permits the car engine to start without the load of the compressor.

The clutch may be engaged or disengaged by means of a toggle switch on the control panel.

#### Wiring

Wiring diagram of A.R.A. units employing a solenoid by-pass valve is shown in Fig. 6. As can be seen, the electrical hookup is comparatively simple.

A lead runs from the car accessory panel to the dash control. One wire leads from the toggle switch to one lead of the solenoid by-pass valve. Other lead of the solenoid valve is grounded.

A lead runs from each of the blower control switch on the control panel to a fuse panel installed on the car fire wall near the accessory terminal block and thence to the blower motors. One lead of each blower motor is grounded.

Resistor wires are built into the blower switches on the control panel to permit three-speed operation. (On 1955 models two-speed switches are used and there is no resistor wire.)

If a blower motor is operated at low speed for very long, the switch may feel warm to the touch. This is a normal condition and should not concern the owner or serviceman.

### SERVICE HINTS

Editor's Note: No attempt is being made in this series to describe or discuss methods of installation of A.R.A. systems since this is handled by the factory or authorized dealers.

The preceding description and following service hints on these systems, however, will enable the independent serviceman to give emergency service to A.R.A. customers if that becomes necessary at a time and/or place when the customer cannot get to an authorized service station.

#### Testing for Leaks

After the system has been installed but before it is operated, the entire system must be checked for leaks with a halide leak detector.

Gauge manifold is connected to compressor. "Freon-12" gas is admitted to system through manifold until a pressure of 40 to 50 p.s.i. is shown on both high and low sides of system.

When the entire system has been

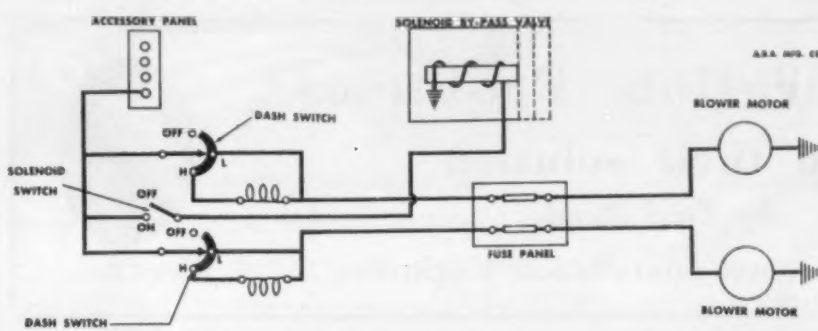


FIG. 6—Wiring diagram for A.R.A. systems using solenoid by-pass valve is shown above.

checked and leaks, if any, noted, the refrigerant should be discharged to the atmosphere before repairing any leaking soldered connections.

A.R.A. cautions that if a leak occurs in the evaporator-blower assembly case, a certain amount of refrigerant will probably remain in the case even after the leak has

been repaired. This would give a false indication of a leak when the second leak test was made.

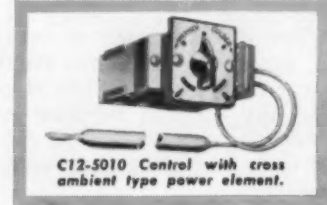
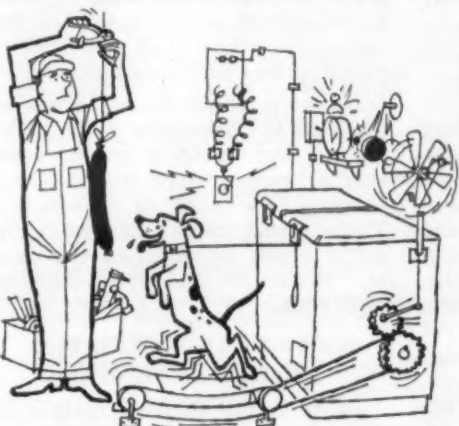
The company advises, therefore, that after correcting a leak in the evaporator case both blowers be turned on and allowed to run for a few minutes to remove traces of the refrigerant.

#### Evacuating System

Following the leak test the system is evacuated with a vacuum pump. The company suggests pulling the system down to 27 in. of vacuum or more, not only to remove moisture but as a further check for leaks. A tight system should hold that vacuum.

(To Be Continued)

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## Refrigeration Problems and their solution

by Paul Reed

For Service and Installation Engineers



Paul Reed

### Service Trouble on 'F-22' vs. 'F-12' (2)

A survey of a large number of service contractors, dealers, or service engineers, on the relative trouble experienced with "Freon-22" (or "Genetron-141") and "Freon-12" (or "Genetron-12"), could be very revealing, but might not be conclusive. Such a survey would cover such a wide variety of types and makes of equipment, that it probably would not be very accurate. Nevertheless, it would be very helpful, and certainly it would be interesting.

In the absence of such a survey, perhaps we can get at least close to the truth by taking each of the questions in your letter, and studying it separately.

#### MORE LEAK TROUBLE WITH 'F-22' THAN 'F-12'?

Take the question of leaks. On the basis of the relative charac-

teristics of "Freon-22" and "Freon-12," can we expect more leaks of "Freon-22" than "Freon-12"?

What are the factors that either directly cause leaks, or that indirectly tend to aggravate the leak situation and to increase the number of leaks?

The direct causes of leaks are so numerous that we would become lost trying to list them all, and any attempt to draw conclusions from them would probably be more confusing than enlightening.

The direct causes of leaks have to do with the materials themselves, and the workmanship. The materials used may be ill-chosen and unsuitable. There may be sand holes in the castings or they may be porous. Tubing may be split. Soldered joints may leak because of corrosive action from an acid flux. Gaskets may absorb refrigerant and swell. Some materials, such as aluminum, may contain impurities that, in time, may develop into leaks.

Undoubtedly, more leaks are caused by poor workmanship and carelessness, than from defective materials. Either through lack of knowledge, experience, or skill, from pure carelessness, or rush to get the job done, someone slipped.

Another form of poor workmanship is poor design. Someone either did not know or forgot, or tried to shave costs too close, and leaks developed that were inevitable regardless of the quality of the material or how high the craftsmanship was in construction.

However, these direct causes of leaks do not have very much bearing on our question of the relative or comparative likelihood of leaks of "Freon-22" or "Freon-12." These direct causes of leaks will apply about as much in the case of "Freon-12" as "Freon-22," or vice versa.

#### WHAT CHARACTERISTICS AFFECT LEAKAGE?

So it is the indirect factors in which we need to be mostly interested. What conditions or char-

acteristics will tend to cause more leaks in "Freon-22" jobs than in similar "Freon-12" jobs?

1. Molecule size. Is there a difference in the size of the molecules of the two refrigerants, that would tend to allow one of them to leak out through a smaller hole, such as in porous materials, more than the other?

Scientists tell us that the inherent leak tendency varies inversely as the square root of the molecular weight. The molecular weight of "Freon-22" is 86.48 and of "Freon-12," 120.9. Thus, with everything else equal, including the pressure, "Freon-22" is 18% more apt to leak than "Freon-12."

2. Pressure. Everything else being equal, a gas or liquid at a high pressure is more apt to leak than one at a lower pressure, and the amount of the gas or liquid that leaks out will be greater.

If we take 20° F. as an average evaporator temperature, the pressure on the low side of the system is 43.3 p.s.i.g. for "Freon-22," and 21 p.s.i.g. for "Freon-12." Thus, the "Freon-22" pressure is about double that of "Freon-12"; so, everything else being equal, we could expect twice as much leak trouble on the low pressure side of the system, with "Freon-22" as with "Freon-12."

On the high pressure side of the system, the ratio is somewhat lower. Assuming 100° F. as an average condensing temperature the high-side pressure for "Freon-22" is 198 p.s.i.g. and for "Freon-12" it is 117 p.s.i.g. Thus, the pressure of "Freon-22" on the high pressure side of the system is roughly 70% greater than that of "Freon-12."

For lower condensing temperatures, the figure is somewhat greater than 70%, and for the high condensing temperatures—as in the summer, for air-cooled systems—the percentage is a little less than 70%.

Nevertheless, with other factors equal, we can expect that "Freon-22" may give 70% more leak trouble on the high pressure side of the system than "Freon-12."

#### 'F-22' COULD BE TWICE AS APT TO LEAK AS 'F-12'

If we combine these pressure factors with the 18% factor because of molecule size, we can conclude that, on either the low or high pressure sides of the system, there is easily twice as much probability of leaks with "Freon-22" as with "Freon-12."

This conclusion is based on "theoretical" considerations, and incomplete at that, for only the two factors are included. It is highly doubtful that in actual practice in the field or in the factory, there is twice as much leak

trouble with "Freon-22" as with "Freon-12."

Nevertheless, we cannot escape the conclusion that although there is probably not twice as much, there is a good deal more leak trouble with equipment using "Freon-22" than with equipment using "Freon-12." How much more, only a very extensive and careful survey would reveal.

#### DISCHARGE TEMPERATURES

In addition to the characteristics of molecular size and pressures, there are some other factors that may have a bearing on the leak question. One of these is discharge temperature, that is, the temperature of the hot discharge gas from the compressor.

This factor will be amplified later in connection with heat dissipation and motor-compressor trouble, but it is true that the discharge temperatures with "Freon-22" are a great deal higher than with "Freon-12." These higher discharge temperatures may cause softening of soldered joints, and crystallization and embrittlement of hot-gas discharge lines from the compressor to the condenser. It would be reasonable to expect more breakage of these lines, and loss of refrigerant thereby.

#### INTERNAL CORROSION

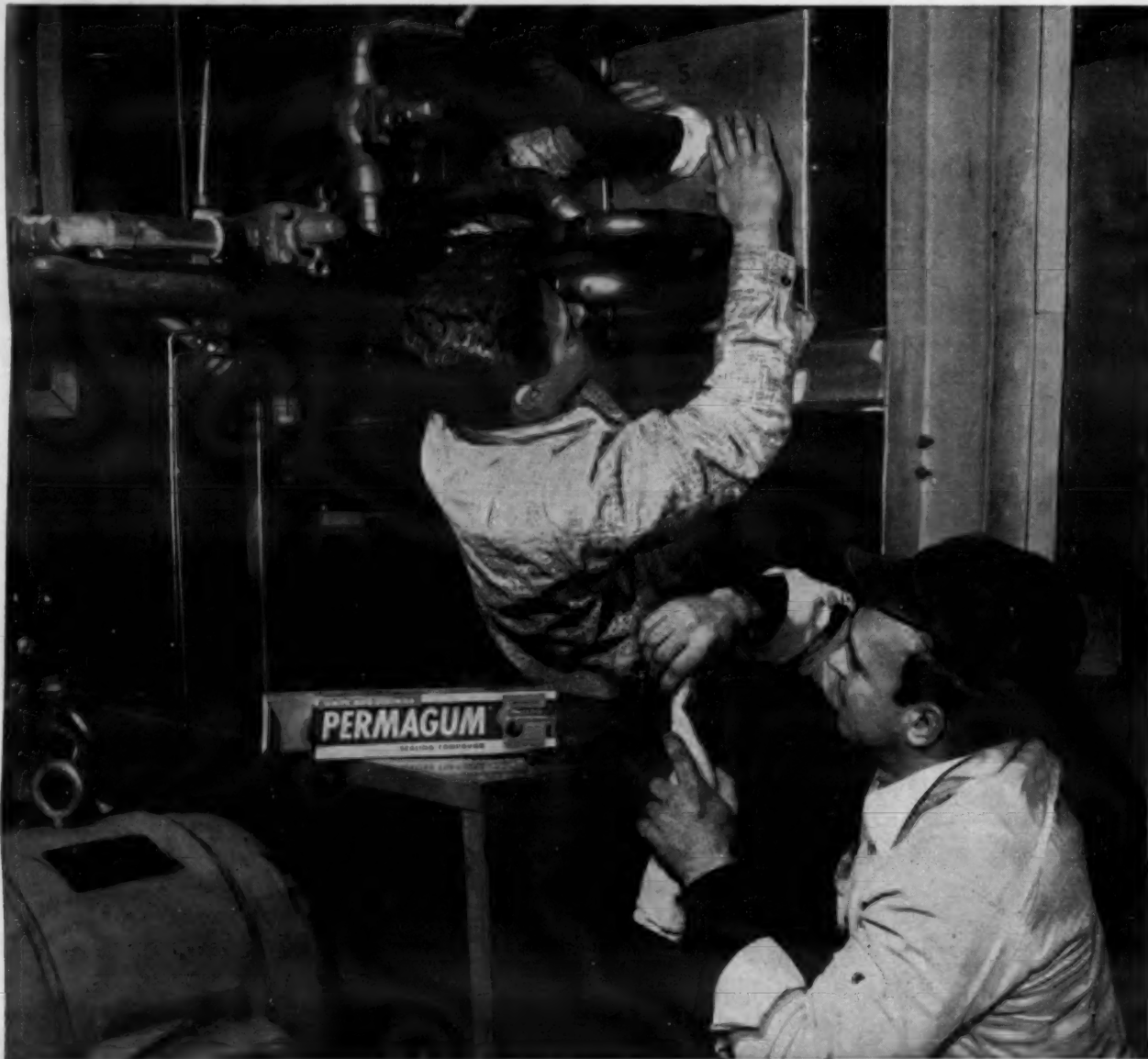
Another factor that could, and in all probability, does have a bearing on leaks, is internal corrosion of the system. This also will be considered later in connection with replacement of motor-compressors, when we will find that the conditions that cause and aggravate corrosion are much more pronounced in a "Freon-22" system than in a "Freon-12" system.

Internal corrosion can cause deterioration of gaskets, and, in advanced cases, may even affect metals to the point where leakage may result.

The author has no real evidence that corrosion, or the effects of the higher temperatures of the discharge line, are major or even significant causes of leaks. They do, however, support the conclusion that more leak trouble can be expected on "Freon-22" than on "Freon-12" systems.

(Some weeks ago, this column carried a discussion on whether "Freon-22" leaks were more difficult to find than "Freon-12" leaks. Little, if any, evidence could be found that would support a conclusion that "Freon-22" leaks are harder to locate than "Freon-12" leaks. Nor should our present conclusion that more leak trouble can normally be expected with "Freon-22" than with "Freon-12," be confused with difficulty in locating leaks.)

(To Be Continued)



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## Testut Named--

(Concluded from Page 1, Col. 4)  
sales coordinator by John H. Wall, vice president and general manager of the home appliance division. It was at Wall's suggestion that the separate sales division has now been set up, with Testut as its chief.

Engineering, procurement, production planning, manufacturing, shipping, and other related home appliance operations will remain under Wall's direction.

"This new move," the Ruthenburg-Menzies announcement stated, "is aimed at strengthening the Servel distributor-dealer organization, and at improving the company's relations with gas utilities."

"Greater emphasis will be given to all phases of Servel's sales programs, including advertising, sales promotion, sales training, and sales service. Testut's appointment marks the start of stepped-up activity in appliance selling by Servel, its associated distributors and dealers, and cooperating gas utility companies."

Before joining Servel, Testut had for five years been manager of the Philadelphia branch of Booz, Allen & Hamilton, management consultant.

## Bankers Warned--

(Concluded from Page 1, Col. 4)  
on Instalment Credit," the commission reminded members that time financing is based on the assumption that equity in the purchased item will increase faster than the item depreciates. Stretching out terms to 30 or 36 months slows down the increase in equity to the danger point, it warned.

"Do not permit competition to set your credit policies," it cautioned, "unless in your considered opinion such competition is sound. Predicating policies on unethical and unsound competition is a sure way to borrow trouble."

"The situation which has developed in the automobile financing field is not sound or healthy for our economy or for banking," the commission concluded. "Liberal terms may easily encourage the consumer further into debt, perhaps overcoming his initial judgment that in his present circumstances he could not afford the particular purchase."



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## Owens-Corning To Make Insulation for Armstrong

TOLEDO—The full line of Fiberglas industrial insulations made by Owens-Corning Fiberglas Corp. will also be produced for Armstrong Cork Co. which will market them under the trade name "Armaglas," it was announced jointly by H. R. Peck, vice president and general manager of Armstrong's Building Materials Operations, and by E. J. Detgen, vice president of Owens-Corning.

While basically the Armaglas products will be the same as those marketed by Owens-Corning, the firm has agreed to manufacture the Armaglas materials to Armstrong's specifications.

Armstrong entered the low temperature insulation business more than 50 years ago, expanded into the high temperature field in the late 1930's, and today carries on a general insulation business on a national scale, with its own contract installation service.

Owens-Corning created Fiberglas in the late 1930's and has developed it into a complete line of incombustible industrial insulations, winning wide acceptance in both the high temperature and low temperature fields, the company pointed out.

## Croft Is President Of Pyle-National

CHICAGO—William C. Croft, former executive vice president of Pyle-National Co., manufacturer of electrical and air distribution equipment for railroad and industrial application, has been elected president and a director of the company, it was announced recently.

Croft succeeds Harold V. Engh as president. Engh, who will remain associated with the company as a director, asked to be relieved of his duties as chief executive officer in order to devote his full time and energies to Turner Brass Works, Sycamore, Ill., in which he has had an interest for many years.

Croft is taking the place on the board of directors of Donald S. Boynton, who is retiring from the board after 15 years of service.

## Tinker Gets Cooling Contract For Houston Co. Courthouse

PERRY, Ga.—H. G. Tinker of Macon has been awarded a \$52,754 contract by the Houston County Commission to develop and air condition the basement or ground floor of the courthouse here. Tinker's bid was low among five contracting firms submitting.

According to members of the county commission, air conditioning facilities to be installed in the basement are such that air conditioning the entire building will be possible in the future by simply adding connections to two other floors. Commissioners indicated that such probably would be done.

## United Supply To Open New Bldg.

HARLINGEN, Texas—Official opening of its new offices and warehouse building here will be held on June 18, the United Supply Co. has announced.

The building is located at the corner of Hanson and Eye Sts. Open house will be conducted from 2 to 7 p.m. with refreshments served after 4 p.m.

# Government Contracts

## DEPARTMENT OF DEFENSE

Description Quantity Invitation No. Opening Date

Officer in Charge of Construction, Ninth Naval District, Building 1-A, Great Lakes, Illinois  
Construction of three 1-story buildings, plumbing, heating, ventilating and electrical systems. One building will have air conditioning. Two buildings will have kitchens and bars with refrigeration. Work located at Air Force Base, Bunker Hill, Indiana. \$20.00 deposit required. 45376 24 Jun 55

Director of Procurement, Eglin Air Force Base, Florida  
Furnishing all plant, labor, materials and equipment and performing all operations in connection with installation of air conditioning system in building No. 3051, Duke Field Aux. No. 3; and installation of mechanical ventilating systems in civilian dormitory buildings DH52, 53, 54, 55 and 120, Eglin Air Force Base, Florida. The work consists of the following for air conditioning system, building No. 3051, Duke Field Aux. 3: Construction of an 11-ft. by 16-ft. equipment foundation including concrete slab on grade; wood columns and roof framing and built-up roofing; installation of 30-ton air conditioning system, including compressor, evaporative condenser, air handling unit, ductwork, registers and grilles and piping; controls, drives and accessories; interior electrical work for air conditioning system; exterior electrical work, including poles and primary conductors; three 15 KVA transformers and service drop; painting of new work. Mechanical ventilating system for five buildings on main base consists of construction of wooden exhaust plenums and curbs for roof ventilators; installation of two fan-type roof ventilators on each building; painting of new work, and electrical work for ventilating systems. (08-603-55-295) 22 Jun 55

Commandant of the Marine Corps, Washington, D. C.  
Attn: Sup. Dept. Procurement Section  
Spare parts for U. S. Thermo refrigerators, models M-10, MQ51, and MQ51E. U. S. Thermo Control Co. or equal. 118 itm 332-8 15 Jun 55

Post Purchasing and Contracting Office, Hq. 5th Armored Div., Camp Chaffee, Arkansas  
Air conditioning theater. Job 55-4B 22 Jun 55

District Public Works Office, Sixth Naval District, Naval Base, Charleston, S. C.  
Air conditioning in delivery and labor rooms, Ward E, Navhosp. Key West, Fla. Job 47195B 28 Jun 55

Cold storage building, NAS Cecil Field, Fla. Job 45726B 29 Jun 55

## GENERAL SERVICES ADMINISTRATION

General Services Administration, Business Service Center, Region 5, 575 U.S. Courthouse, 219 S. Clark St., Chicago, Illinois  
Louisville, Ky. USPO and Job C&R-261 22 Jun 55  
courthouse, air conditioning judges chambers, etc.

General Services Administration, Business Service Center, 7th and D Sts., Washington, D. C.  
Air conditioner, 1 ea. 4H-62651-R 20 Jun 55  
Air conditioner, 3/4 hp. 7 ea. 4H-62831-R 24 Jun 55  
Air conditioning, Federal Term (Supplement 21 Jun 55  
Office Building, No. 1. Job 1 GS-R3-B-3555)  
3rd and D Sts., S.W., Washington, D. C.

General Services Administration, Business Service Center, Region 2, 250 Hudson St., New York 13, New York  
New air conditioning units, Job None 15 Jun 55  
US Pub. Hlth. Serv. Hosp., Stapleton, S.I., N.Y.

## U. S. DEPARTMENT OF COMMERCE

Chief, Supply Div., Technical Development and Evaluation Center, Civil Aeronautics Administration, P.O. Box 5767, Indianapolis 21, Indiana  
5-ton air conditioning units Complete 40 20 Jun 55  
in accordance with specifications (sheet metal).

Procurement Branch, Civil Aeronautics Administration, Federal Office Bldg., Kansas City, Missouri  
Air conditioner, casement 1 3-55-106 21 Jun 55  
window type, Chrysler model 1750, 1/2 ton.  
Air conditioner, casement 4 3-55-106 21 Jun 55  
window type, Chrysler model 1773, 3/4 ton.

## CONTRACTS AWARDED THROUGH JUNE 6

Corps of Engineers, U. S. Army, Chicago Procurement Office, 226 W. Jackson Blvd., Chicago 6, Illinois  
Air conditioner, base mtd., self contained, without air mixing chamber, 18,000 B.t.u., 338 ea., with duct adapter kit for above air conditioner, 189 ea.—\$311,626.—Reco Products Div., Recony Corp., 150 Nassau St., New York 38, N. Y.

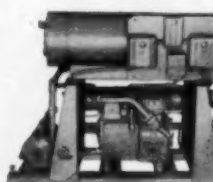
The Navy Purchasing Office, U. S. Naval Supply Activities, Brooklyn, N. Y.  
Plants, refrigerating and ice making,—2 ea., \$53,578.—Carrier Corp., 385 Madison Ave., New York 17, N. Y.

General Services Administration, Business Service Center, Region 6, Kansas City, Missouri  
Kansas City, Mo. 601 Hardesty Bldg. 9, heating and air conditioning, C R1360.—Job, \$147,922.—U. S. Engineering Co., 915 Campbell, Kansas City, Mo.



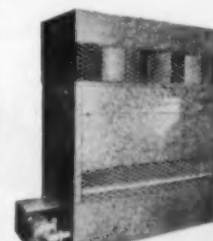
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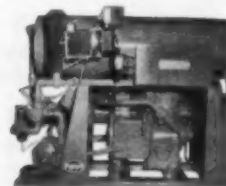
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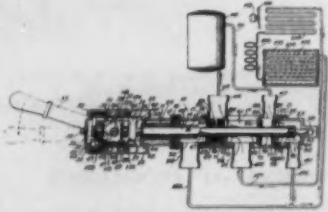
THAN BY ANY OTHER  
COIL MANUFACTURER



# PATENTS

## Week of March 1 (Concluded)

**2,703,106. REVERSING VALVE.** William F. Borgard, John Callig, and Hugh B. Abbott, Evansville, Ind., assignors to International Harvester Co., a corporation of New Jersey. Application July 14, 1951, Serial No. 236,784. 6 Claims. (Cl. 137-625.29.)



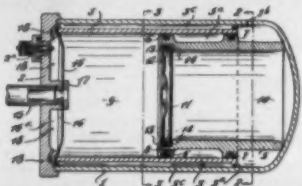
1. In a reversing valve for a refrigeration system; a casing having a cam compartment and a valve compartment; a valve stem positioned in said valve compartment with one end extending into said cam compartment; a sealing bellows positioned between said compartments with one end secured to said casing in sealed relationship and the other end secured to said valve stem in sealed relationship; a rectangularly shaped carrier member having an opening there-through positioned in said cam compartment and being fixedly secured to the end of said valve stem; the walls of the cam compartment formed to permit a sliding movement of said carrier member longitudinally of said valve but preventing rotational movement thereof so that said bellows will not be subjected to torsional stresses; cam means positioned in said

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opening in said carrier member and operating against the walls of said opening for imparting a sliding reciprocating movement to said carrier member.

**2,703,108. ACCUMULATOR.** Tommy J. McCuiston, Euclid, Ohio. Application Dec. 4, 1950, Serial No. 199,104. 4 Claims. (Cl. 138-31.)



1. An accumulator comprising a cylinder closed at one end and having a fixed head at the other end thereof, and a piston reciprocable longitudinally within said cylinder so as to divide the interior of said cylinder into separate chambers for a liquid and a gaseous body, respectively, upon opposite sides of said piston, and a yieldable diaphragm spaced from one end of said cylinder in a manner co-axially with respect thereto so as to provide an auxiliary chamber for the gaseous body therebetween, means of communication between said first-named chamber for the gaseous body and said auxiliary chamber therefore, and said chambers being provided with openings through the wall of said cylinder for the liquid and the gaseous body, respectively.

**2,703,109. DUCT CONSTRUCTION.** William S. Saville, San Diego, Calif., assignor, by mesne assignments, to General Dynamics Corp., a corporation of Delaware. Application Aug. 25, 1951, Serial No. 243,676. 8 Claims. (Cl. 138-55.)

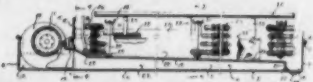


1. A gas and air conveying duct comprising tubular sections including a body section comprised of integral wall portions formed of flexible laminae, and a mounting section having integral wall portions comprising rigid laminae, the adjacent ends of said flexible and rigid laminae being integrally joined, said mounting sec-

tion having an integral rigid attachment portion provided at an end thereof.

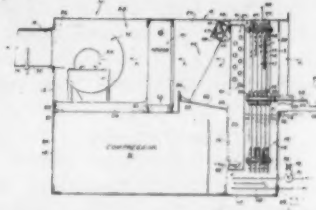
5. A gas and air conveying duct comprising tubular sections having laminated wall portions with one lamina being common to the wall portions of all said tubular sections to seal the duct against leakage, said lamina being formed of woven glass fabric impregnated with a flexible material, one of said tubular sections comprising laminae formed similarly to said common lamina, and the other of said tubular sections comprising laminae formed of woven glass fabric impregnated with a thermosetting synthetic resin compatible with said flexible impregnating material to provide a hard, rigid structure, the adjacent ends of the laminae of said tubular sections being integrally joined.

**2,703,223. COOLER FOR REFRIGERATORS.** Willard A. Gebhardt and Edwin J. Radtke, Milwaukee, Wis. Application March 10, 1954, Serial No. 415,244. 3 Claims. (Cl. 257-9.)



1. An air conditioning and cooling unit for chill and like rooms comprising an elongated body housing having a bottom wall, spaced parallel side walls and end walls, a transverse partition in said body housing arranged adjacent to one end wall, an air equalizing and distributing baffle plate disposed in the housing extending from one side wall to the other and from the partition toward the remote end wall defining in said housing a lower pressure chamber and an upper air distributing chamber, said baffle plate being provided with perforations, a motor driven blower in said housing on the opposite side of the partition from the baffle plate having a straight outlet throat opening into the pressure chamber, said baffle plate also including an end wall engaging the bottom wall of the housing in spaced relation to an adjacent end wall and defining a water collection sink, a discharge pipe communicating with the sink, cooling coils within the upper chamber, a top deflector plate carried by the housing in spaced relation to the upper edges of the side walls and disposed above the cooling coils, and outwardly angled baffle plates disposed on opposite sides of the housing and cooling coils.

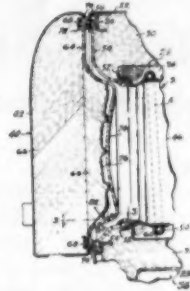
**2,703,228. HOUSEHOLD AIR CONDITIONING UNIT.** Walter L. Fleisher, New City, N. Y., assignor to Air & Refrigeration Corp., New York, N. Y., a corporation of New York. Application Dec. 21, 1953, Serial No. 399,373. 3 Claims. (Cl. 261-11.)



1. An air conditioning unit comprising a reservoir for liquid, means for maintaining liquid at a predetermined level in said reservoir, a cell partially submerged in the liquid in said reservoir, means for rotating said cell, storage means for hygroscopic material, control means for delivering hygroscopic material from said storage means to the liquid in said reservoir to maintain a predetermined concentration of hygroscopic material in said liquid, means for operating said control means by the rotation of said cell, refrigerating means in said unit also partially submerged in the liquid in said reservoir, eliminator means in said unit and means for drawing air through said unit successively through unsubmerged portions of the rotating cell, an unsubmerged portion of said refrigerating means, and said eliminator means and for thereafter blowing it outwardly of said unit.

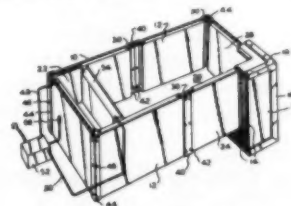
## Week of March 8

**2,703,442. REFRIGERATOR DOOR.** Lawrence A. Philipp, Detroit, Mich., assignor to Nash-Kelvinator Corp., Detroit, Mich., a corporation of Maryland. Original application Sept. 23, 1948, Serial No. 50,472. Divided and this application Oct. 15, 1949, Serial No. 121,549. 3 Claims. (Cl. 26-35.)



1. A refrigerator door comprising, a casing, a rear upright panel in said casing having an inclined bottom wall, heat insulation interposed between said casing and said panel, a spacer interposed between said insulation and said panel spacing insulation from said panel to form a frost collection space, a drain in said inclined bottom wall, and a baffle on the opposite side of said drain from said upright panel.

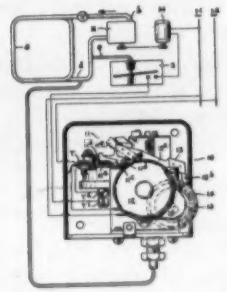
**2,703,480. PLURAL TEMPERATURE REFRIGERATED CABINET.** Lawrence E. Niemensneider, Chelsea, Mich., Application Sept. 7, 1950, Serial No. 183,629. 4 Claims. (Cl. 62-4.)



4. A refrigerating apparatus for the preservation of food products in a frozen state over long periods of storage comprising a refrigerant compressor, evaporator structure operatively connected to said compressor, thermostat means operatively connected to said compressor for cyclic operation thereof, a storage chamber having an insulated exterior wall, a eutectic tank defining an inner liner of said chamber, an outer wall of said tank being adjacent said insulated exterior wall, said thermostat means being located between said insulated exterior wall and the outer wall of said tank, said evaporator structure being disposed adjacent said outer wall of said tank and spaced from said inner wall, a eutectic solution in said tank defining a heat barrier of substantial thickness as compared to said

evaporator structure and being substantially disposed to one side of said evaporator structure whereby said thermostat means is responsive solely to the temperature condition existing between said evaporator structure and said insulated exterior wall and temperature conditions within the interior of said chamber defined by said tank remains substantially constant and relatively unaffected by the cyclic operation of said compressor.

**2,703,481. CIRCUIT CONTROLLING DEVICE FOR REFRIGERATING SYSTEMS AND THE LIKE.** Allan P. Charbonneau, Wauwatosa, Wis., assignor to Cutler-Hammer, Inc., Milwaukee, Wis., a corporation of Delaware. Application Sept. 27, 1950, Serial No. 187,106. 7 Claims. (Cl. 62-4.)



3. For a refrigerating system having energy supply means, means for periodically interrupting the supply of energy to said system to defrost the same and comprising, in combination, switch means responsive to a fluid thermal condition of the system, latching means to render said switch means normally incapable of operation, said latching means comprising a latching member connected to said switch means and having a cam follower portion, a rotatable cam member having first and second tracks for said cam follower and at least one transfer slot affording movement of said cam follower from said first to said second track for unlatching said switch means to initiate defrosting of the refrigerating system, and means affording transfer of said cam follower from said second to said first track at any point on the latter for relatching said switch means upon response thereof to said condition to terminate defrosting.

**2,703,556. ROTARY FAN AND FAN AND ORIFICE ASSEMBLY.** Archibald C. Doty, Jr., Milton, and William E. Morrison, Torrington, Conn., assignors to The Torrington Mfg. Co., Torrington, Conn., a corporation of Connecticut.



6. The combination in a fan, of a rotatable hub and a plurality of similar equally spaced blades secured thereto at substantial pitch angles each of which blades has its maximum dimension in the direction of rotation greater than its maximum radial dimension, each blade comprising a main portion provided with a peripheral edge approximately concentric with the axis of rotation and provided with a generally radially extending trailing edge and each blade also comprising a rearward curved trailing portion which joins the said main portion along a substantially straight juncture line which extends generally inward from a point located at said peripheral edge and substantially spaced in the trailing direction from a radial line through the center of the blade and which diverges inwardly and in the trailing direction from the said radial line at an angle thereto which is at least 20° and not more than 35° so as to intersect the trailing edge of the main portion of the blade at a distance from the axis of rotation of the blade that is in the range of 30% to 45% of the distance from the said axis to an extension of the arc of the said peripheral edge of the blade, the said trailing portion having a convex trailing edge tangent at the outer end of the juncture line to the said peripheral edge of the main portion and tangent at the inner end of the juncture line to the said radially extending trailing edge of the main portion.

### Coal Truck Terminal

RICHMOND, Va. — Associated Transport has opened its air conditioned \$500,000 truck terminal on Ninth Street Rd. here. The terminal has 38 doors for dispatching freight.

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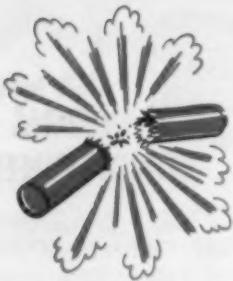
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**MANUFACTURERS' REPRESENTATIVES** now covering New England and the Carolinas, contacting firms who use or sell commercial refrigeration, to sell fast-growing line of special and standard commercial equipment. Must be able to sell quality. Write: PAUL R. STEWART, 1712 John Street, Cincinnati 14, Ohio.

**WANTED**—DISTRICT salesmen to represent well-known manufacturer of freezers, room air conditioners, milk coolers and allied equipment. Sales experience necessary. Will pay draw, commission and expenses. List district desired. The right man will eventually manage district. Write giving full qualifications and past experience to: L. C. Bakke, SUB-ZERO FREEZER CO., INC., Madison 1, Wisconsin.

**COMMERCIAL REFRIGERATION engineer**—for position as assistant chief engineer with experience in design and development of commercial refrigerators—also thorough background in refrigeration applications. Write THE WARREN CO., INC., Box 1463, Atlanta 1, Georgia.

**SALES MANAGER**: Experienced in handling national promotion of agricultural or dairy equipment, or refrigeration equipment. Unusual opportunity for man with enthusiasm, intelligence and recognized sales managerial ability in a rapidly expanding business. Write BOX A5260, Air Conditioning & Refrigeration News.

**ASSISTANT SERVICE manager**—Rapidly growing high-side manufacturer is interested in employing qualified man to serve as assistant service manager. Must have had minimum five years' commercial field experience. Some office experience would be helpful. If you are interested in a position with a future, contact us. BOX A5257, Air Conditioning & Refrigeration News.

**LABORATORY ENGINEER** to test and develop finned-type heat transfer surfaces. Recent graduate, having studied refrigeration, thermodynamics, heating and ventilating preferred. B.S.E.E. or B.S.M.E. Good opportunity with south central Michigan manufacturer. Send complete resume, stating salary expected. Reply BOX A5259, Air Conditioning & Refrigeration News.

**MANUFACTURERS' REPRESENTATIVES**—Central, Midwest, and South-western territories open. Indiana, Kentucky, Ohio, and West Virginia included. Products include reach-ins, walk-ins, display refrigerators, vegetable and dairy self-serve cases, double duty cases as well as custom built refrigerators and walk-ins for schools, hospitals, restaurants, stores and super markets. BOX A5261, Air Conditioning & Refrigeration News.

**CHIEF ENGINEER**, engineers, draftsmen—Chief engineer with background in package-type air conditioning equipment is being sought by well-established, medium-sized manufacturer of air conditioning equipment, located in Los Angeles. Excellent opportunity for aggressive, enthusiastic engineer with aptitude for administration, organization and creative thinking. Salary dependent upon background and experience. Also seeking: Engineers with previous air conditioning experience, and draftsmen experienced in sheet metal fabrication, for our rapidly expanding program. Only complete resumes, accompanied by a photograph, will be accepted. All replies will be held in strict confidence. Our personnel know of this ad. BOX A5263, Air Conditioning & Refrigeration News.

### EQUIPMENT WANTED

**WANTED**: ANY amount Frigidaire relays, YG2 type. Will pay \$25 each. Ship in and will mail check. UNITED CONTROLS, 342 West 70th Street, New York 23, N. Y.

### EQUIPMENT FOR SALE

**THREE 20-TON** Frigidaire condensing units, complete with motor, coils and starter. Good condition. Must sell immediately. W. T. HEANEY, 8425 Joy Road, Detroit, Mich., TEXAS 4-7760.

**BRAND NEW 1955** models completely automatic 110V. or 220V. Kesco condensate water disposal units for air conditioners at your jobbers. Famous flood-proof, trade accepted, low priced K-40 12 ft. head; K-55 17 ft. pump; available in deluxe heavy hot-dipped galvanized tank 9 1/4" high, 14" wide, 7" thick. Write for your nearest jobber; literature: KESCO PRODUCTS CORP., Box 84, Springfield Gardens 13, New York.

**AUTOMOTIVE AIR** conditioning, complete kits, low-sides, compressors, condensers, controls. Closing out complete stock below cost. Send for descriptive list and price. KOOLRIDE, INC., 3745 Haverhill Dr., Toledo 12, Ohio.

**BRAND NEW motor compressors**—Model P91 @ \$29.50, S88 @ \$29.50, S64 @ \$31, S54 @ \$32, S44 @ \$33, S34 @ \$35. All complete with relays. Write for additional information on these and complete refrigeration units. MANN REFRIGERATION SUPPLY CO., 440 Lafayette Street, New York 3, N. Y.

**ATTENTION DEALERS**: Residential air conditioners, completely packaged, available at economy prices, 2 h.p. and 3 h.p. sealed system units shipped ready for installation. No field refrigeration required. 5-year warranty. SPRING CORPORATION, Kensington, Maryland.

**REFRIGERATION VALUES**: Attention servicemen; send for our catalog of refrigeration parts; savings up to 50%. WALTER W. STARR REFRIGERATION SUPPLIES, 2833 Lincoln Ave., Chicago 13, Illinois.

**GREYHOUND TYPE** display and sales bus—completely air conditioned—equipped with 5 h.p. gasoline generator for lights and power for demonstrating electrically-powered equipment. Splendid mechanical condition, ready for the road. Write, wire or phone for complete information—wonderful sales aid for manufacturer or distributor. WRIGHT AIR CONDITIONING CORPORATION, 383 1/2 Whitehall Street, S.W., Atlanta, Georgia.

### BUSINESS OPPORTUNITIES

**FOR SALE**: Refrigeration sales and service business. This business has been going very successfully for ten years. Selling because of age. A wonderful opportunity for some young refrigeration man. This business is located in Wisconsin. Write BOX A5262, Air Conditioning & Refrigeration News.

## Penn Controls Opens New Engineering and Research Building

GOSHEN, Ind.—Penn Controls, Inc. here late last month celebrated the opening of its new engineering and research building, in which will be carried out the development and testing of the broad line of controls which the company manufactures for refrigeration, air conditioning, and other applications.

The new building incorporates some modern innovations in construction and design, in the form of porcelainized steel panels with continuous horizontal window strips of Thermopane glass. Face brick, which blends with the present office structure, completes the exterior. More than 18,000 sq. ft. of floor space is provided.

### MODEL SHOP

Part of the area in the engineering and research building is devoted to a model shop. It is equipped with specialized light machinery, which enables expert craftsmen to turn out hand-made models of new controls for test purpose before production tools are made. It is also possible to duplicate the fabricating and assembly operations of the Penn plant on a small scale.

The laboratory testing equipment in the new building is designed to check Penn Controls products under all kinds of extremes. There are ovens which can produce temperatures as high as 2,500° F., and refrigerated units that will provide -100° F. There are instruments for measuring changes of one ten-thousandths of an inch or one thousandth of a gram (35 millionths of an ounce). Air pressures up to 500 p.s.i. are available as well as vacuum pumps that will produce near-perfect vacuums.

### LOAD TEST ROOM

In a special "load test" room controls are tested to determine how large an electrical load they can carry; the main circuits in this room are fused at 300 amperes. "Life test" setups are also provided, with some switches so operated that the equivalent of 10 years of life (say some 350,000 operations) can be acquired in a few days.

One special room in the engineering and research building is used to test the controls in actual products in which they will function—and ice-building tank, for example, is installed to check the operation of a control which is designed to work with a system that builds up an ice bank.

Much of the test apparatus was especially designed and built by Penn engineers.

### Carrier Dealer Appointed

CHARLESTON, W. Va.—Appointment of Duling Heating Co. as dealer for Carrier air conditioning and heating equipment, was announced by R. H. Kyle, Jr. of Tri-State Air Conditioning Co.



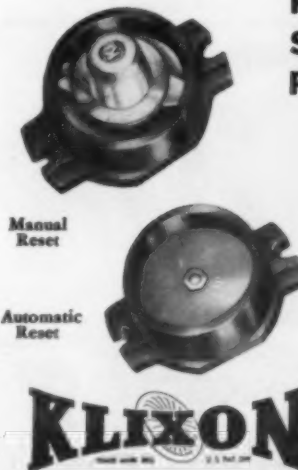
## KLIXON Protectors Build Customer Confidence

PAWTUCKET, R. I.: Peter C. Mercier of the New England Machine and Electric Company knows the value of Klixon protected motors. He says—

"It has been our experience in the motor repair business that having the confidence of the customer makes for a mutual understanding of better relationships. We find that preventing motor burnouts through the use of Klixon Protectors is one of the major factors in obtaining this goal."

### Klixon Protectors Reduce Service Calls and Repairs by Preventing Motor Burnouts

The KLIXON Protectors, illustrated, are built into the motor by the motor manufacturer. In such equipment as refrigerators, oil burners, washing machines, etc., they keep motors working by preventing burnouts. If you would like increased customer preference, reduced service calls and minimized repairs and replacements, it will pay you well to ask for equipment with KLIXON Protectors.



**METALS & CONTROLS CORPORATION**  
SPENCER THERMOSTAT DIVISION  
2406 FOREST ST., ATTLEBORO, MASS.

**MORE COILS** are made by  
**KRAMER** than by any . . .  
other coil manufacturer



## N. Y. Considers New Safety Code--

(Concluded from Page 1, Col. 4) proposed legislation are in effect an adaptation of the ASA B9 Refrigeration Code to the needs of the city of New York, it is stated:

The sponsors of the proposed code summarize the benefits that it is to bring to industry and the consumer as follows:

"1. Provide greater assurance of proper and safe installation because of modern standards.

"2. Assure greater safety through basing the permissible amount of refrigerant on the cube of the space in which the unit is located, thus insuring safe dissipation of the refrigerant in case of leakage. The unrealistic, arbitrary maximum amounts now provided by law are eliminated.

"3. Eliminate use of licensed operators on all 'Freon' type systems up to 90 hp. Operators serve no useful function whatsoever on these systems. Yet present law demands employment of operators on all units containing over 50 lbs. of refrigerant. The proposed

amendment therefore will mean operation savings of up to \$10,000 and more per annum on systems exempted.

"4. Reduce annual Fire Dept. permit fees on many systems, including all office water coolers, window air conditioners, and similar units.

"5. Permit much wider use of direct type air conditioning systems which are cheaper to manufacture and install. They would for example be authorized in theaters, halls, lobbies, auditoriums, and other places of public assembly from which they are banned under the present antiquated law.

"6. Allow piping of 'Freon' type refrigerants through floors under certain prescribed conditions. This eliminates the present necessity of the uneconomic use of large numbers of small separate units or, in many cases, of indirect air conditioning systems.

"7. Remove the problems raised by the present law's restriction against the use of common duct systems."

## Carrier 6-Mos. Net Profits--

(Concluded from Page 1, Col. 3) per share on the same amount of common stock.

During the six months ended April 30, 1955, completed sales totalled \$83,737,000 and new orders were booked in the amount of \$100,294,000. The comparable figures for the first six months of the prior fiscal years of both corporations were \$97,365,000 and \$108,560,000, respectively.

On April 30, 1955, the total backlog of unfilled orders amounted to \$51,822,000 as compared with \$52,712,000 a year earlier.

The above bookings and backlog figures are exclusive of the unshipped portions of major government contracts which totalled approximately \$14,000,000 at the end of April. The comparable figure a year ago was \$61,000,000.

Since Carrier Corp. in the past has followed the practice of reporting earnings each quarter on a running 12 months basis, the following figures are presented so that comparisons may be made.

Net profit of Carrier excluding all Affiliated Gas earnings for the 12 months ended April 30, 1955, amounted to \$6,967,000, or \$4.76 on each of the 1,464,526 shares of common stock outstanding prior to the merger. Comparable figures for the 1954 period were \$7,271,000 or \$4.96 per share.

Completed sales for the two periods were \$141,408,000 and \$164,649,000, respectively. The de-

crease in volume reflects a substantially smaller amount of business under government contracts.

Regarding the outlook for the full year 1955 with respect to Carrier and the air conditioning industry generally, Cloud Wampler, chairman and president, stated:

"Because of inventories carried over from 1954, new orders received by manufacturers for packaged equipment, especially room air conditioners, have not been as large, so far this year, as last. And the same is true of shipments.

"On the other hand, business has improved in the field of big air conditioning. Should normal weather conditions prevail this summer, the present year might well be better than 1954."

## G-E Raises Factory Price Of 3/4-Hp. Room Air Conditioners \$5 Per Unit

LOUISVILLE, Ky.—The factory price of 3/4-hp. General Electric room air conditioners has been raised \$5 a unit.

Paul M. Augenstein, marketing manager of the G-E Room Air Conditioner Dept., said the increase was made in an effort to bring the price of the 3/4-hp. unit in line with the prices of other company models. G-E also makes room air conditioners in 1/2, 1, and 1 1/2-hp. sizes.

## In Milwaukee

### Polio Vaccine Supply Damaged When Health Dept. Refrigerator Fails

MILWAUKEE—Potency of Milwaukee's polio vaccine was damaged by heat recently due to failure of controls on a new 64-cu. ft. health department refrigerator in which the vaccine was stored.

The 28,000 cubic centimeters of vaccine were exposed to a temperature of 95° F. after the refrigerator stopped operating sometime between 4:45 p.m. one day and 9:10 the next morning, when the box was opened for a routine check.

The refrigerator has thermostatic controls which must be set from the inside. It was locked and the controls were still set at 40° when it was opened and the accident discovered.

Dr. E. R. Krumbiegel, city health commissioner, said the temperature was pushed up to 95° by heat from a motor that drives a fan to circulate air inside the refrigerator.

As soon as the accident was discovered, the vaccine was transferred to other refrigerators.

Parke, Davis & Co. of Detroit, maker of the vaccine, told Dr. Krumbiegel that a temperature of 95° definitely would damage the vaccine's potency.

## Summer Marts Set To Open June 20--

(Concluded from Page 1, Col. 5) Most of It." At 10:45 a.m. Wallace Johnston, NARDA past president, will chair a discussion on "Kitchens and Built-Ins—A Range of New Appliances."

After luncheon, Mort Farr, chairman of the NARDA board, will head an audience-participation discussion of "Color TV—What's Happening and When." Final session starting at 3 p.m. will find Don Gabbert, NARDA vice president, exhibiting outstanding "Promotion Bellringers," submitted by NARDA members.

Portfolios of the most generally useful and ingenious ideas for building business and increasing profits will be distributed to all dealers who attend the meeting, according to Al Bernsohn, NARDA managing director.

Although there will be no admission charge, dealers expecting to attend the sessions must register in advance with Robert B. Johnson, sales promotion manager of the Merchandise Mart, before Monday, June 20.

As usual, free bus service for buyers will operate between the Merchandise Mart and downtown hotels on a 10-minute schedule between 8 and 10 a.m. and between 4 and 6 p.m. for the first five market days.

Between 10 a.m. and 4 p.m. a courtesy bus will run from the Merchandise Mart to the

American Furniture Mart on a 20-minute schedule.

Loop hotels have long been sold out for the market period. However, some accommodations might still be available in outlying hotels.

## Trane First Quarter Net Sales Show Rise over '54

LA CROSSE, Wis.—Consolidated net sales of the Trane Co. and its Canadian subsidiary reached \$12,180,443 for the three months ending March 31, D. C. Minard, president, reported.

This compared with \$11,652,601 for the first quarter last year. Net profit after taxes amounted to \$579,315, compared with \$853,909 a year ago.

While sales (shipments) rose 4 1/2% for the period, Minard said orders for the first quarter were sharply ahead of last year in all lines of Trane products.

"Indications are that sales for the year will increase at least 10% to \$55,000,000," Minard said, "and that earnings for the full year will continue favorable in 1955."

## Auto Air Conditioner for \$350

CHICAGO—Montgomery Ward & Co. is introducing, in its June-July Bargain Sales Book, a 2.4-ton automobile air conditioner priced at \$350.

## LA CROSSE DESIGN AND ECONOMY MEANS FASTER

### SALES FOR YOU



BLUE BIRD  
SELF CONTAINED

Again, La Crosse engineering leads with the exclusive "plug-in-panel" refrigeration unit . . . easily removable . . . adaptable to many uses. The Thrifaire is available electric complete—42" and 62" lengths.



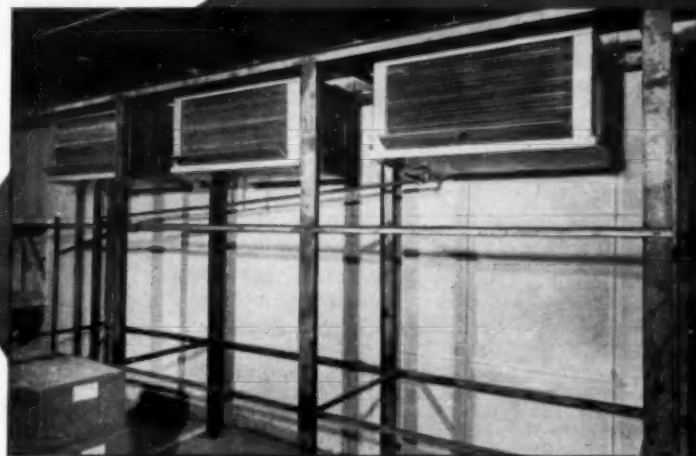
THRIFAIRE  
DRY STORAGE BOTTLE COOLER

WRITE TODAY - FOR COMPLETE INFORMATION.

**LA CROSSE COOLER COMPANY**

Factory and Gen'l Offices: 3000 Losey Blvd., So., La Crosse, Wis.  
Export Office: 80 Broad St., New York City. Cable Address: Eximport.

## BUSH HG UNITS CHOSEN TO CHILL NEW FROZEN FOOD WAREHOUSE



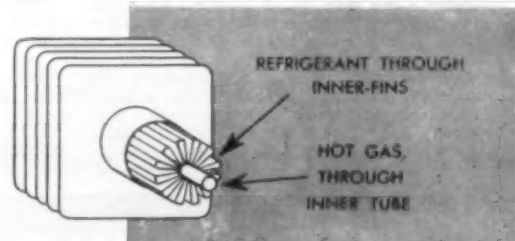
Bush 'HG' Hot Gas Defrost Unit Coolers refrigerate both the main storage area and "pickup" room of this modern Associated Grocers' frozen food warehouse in Pittsburgh.



Each 'HG' unit cooler is actually *two units in one*. Inner-Fin coil design—exclusive with Bush—combines evaporator and re-evaporator in a single unit. No reboilers, storage tanks or other complicated "extras" are required.

Units defrost *from the inside*. Inner-Fin design assures rapid distribution of heat to the area where frost forms. Thus, defrosting is quick and complete . . . room temperature rise is held to a minimum.

Write for catalog #835 containing complete information on new Bush line of low temperature equipment.



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